



# Project Administration Memorandum

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Project Number: 40054  
Grant Number: 0099  
September 2009

## Nepal: South Asia Subregional Economic Cooperation Information Highway Project

This Project administration memorandum (PAM) is an active document, progressively updated and revised as necessary, particularly following any changes in project costs, scope, or implementation arrangements. This PAM shall be read along with the Report and Recommendations of the President, Grant Agreement and relevant ADB publications. This PAM incorporates agreements reached between SATC and Executing Agency as of September 2009. In case of discrepancy, the Grant Agreement shall prevail.

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## Main Text

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### I. INTRODUCTION

To support regional cooperation among Bangladesh, Bhutan, India, and Nepal, the South Asia Subregional Economic Cooperation (SASEC) Program started in 2001.<sup>1</sup> In 2005, the SASEC Information and Communication Technology Working Group (ICTWG) was established under the SASEC Program. ICTWG developed a SASEC ICT development master plan laying down the strategy, framework, and priorities for regional cooperation in ICT. It proposed three most urgent areas for improvement in ICT: (i) cross-border connectivity, (ii) rural access to information, and (iii) human resource capacity. To address these needs, the SASEC countries agreed, at the third ICTWG meeting in Dhaka in September 2006, to develop the concept of the SASEC information highway, which would deliver and facilitate modern broadband information, communication, and knowledge services within and across borders to governments, businesses, research institutes, and rural and remote communities. ADB approved project preparatory technical assistance in November 2006 to give definite form to the project components.<sup>2</sup> ADB approved the SASEC Information Highway Project (the Project) in December 2007.<sup>3</sup>

### II. PURPOSE

The Project is aimed at enhancing the benefits of ICT and regional cooperation for inclusive growth and poverty reduction by increasing the supply of affordable broadband, skilled ICT manpower, and local content and e-applications, with a special focus on the needs of the poor. It is also expected to help SASEC countries improve their productivity and efficiency and participate more fully in the global information economy.

### III. OVERVIEW

Annex 1	Project Definition
Annex 2	Project Management
Annex 3	Procurement Plan
Annex 4	Safeguards Plan
Annex 5	Financing Plan
Annex 6	Investment (Cost) Plan
Annex 7	Execution Plan
Annex 8	Performance Monitoring and Evaluation
Annex 9	Major Covenants
Annex 10	Appendixes

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<sup>1</sup> The Program has been supported through ADB. 2000. *Technical Assistance for Identification and Prioritization of Subregional Projects in South Asia*. Manila (TA 5936-REG); ADB. 2003. *Technical Assistance for South Asia Subregional Economic Cooperation II*. Manila (TA 6010-REG); and ADB. 2005. *Technical Assistance for South Asia Subregional Economic Cooperation III*. Manila (TA 6297-REG).

<sup>2</sup> ADB. 2006. *Technical Assistance for Preparing the South Asia Subregional Economic Cooperation Information Highway Project*. Manila (TA 6358-REG).

<sup>3</sup> ADB. 2007. *Report and Recommendation of the President to the Board of Directors on a Proposed Asian Development Fund Grant, Loan and Technical Assistance Grant to People's Republic of Bangladesh, Kingdom of Bhutan, India, and Nepal: South Asia Subregional Economic Cooperation Information Highway Project*.

## Main Text

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### IV. KEY PERSONS INVOLVED IN THE PROJECT

#### A. ADB Staff

The Transport and Communications Division (SATC) under the South Asia Department (SARD) is responsible for the implementation of the Project in ADB.

Transport and Communications Division (SATC) South Asia Department (SARD)	Mr. Kazuhiko Higuchi Director, SATC Phone: +63 2 632-6806 Email: khiguchi@adb.org
	Ms. Susan Lim Transport Specialist, SATC Phone: +63 2 632-6499 Email: slim@adb.org
	Ms. Abigail D. Garrovillas Assistant Project Analyst Phone: +63 2 632-6964 Email: agarrovillas@adb.org
Office of the General Counsel	Ms. Rita O'Sullivan Senior Counsel, OGC Phone: +63 2 632-4898 Email: rosullivan@adb.org
Controller's Department Loan Administration Division CTLA-1	Mr. Francis Mathew Financial Control Specialist Phone: +63 2 632-5947 Email: fmathew@adb.org
Central Operations Services Office Consulting Services Division 1	Mr. Terrence Woods Senior Procurement Specialist Phone: +63 2 632-6478 Email: twoods@adb.org
Address	Asian Development Bank No. 6 ADB Avenue, Mandaluyong City 1550 Metro Manila P.O. Box 789 0980 Manila, Philippines
Facsimile (SATC)	+63 2 636-2340
Website Address	Main: <a href="http://www.adb.org">http://www.adb.org</a> Procurement: <a href="http://www.adb.org/Procurement/prequalification-bid-documents.asp">http://www.adb.org/Procurement/prequalification-bid-documents.asp</a> Consulting Services: <a href="http://www.adb.org/Consulting/default.asp">http://www.adb.org/Consulting/default.asp</a> Disbursement: <a href="http://lfis.adb.org/home.asp">http://lfis.adb.org/home.asp</a>

**B. Executing Agency**

Ministry of Information and  
Communications of Nepal

Mr. Sushil Ghimire  
Secretary

Address:  
Tel:  
Facsimile:

Singha Durbar, Kathmandu, Nepal  
+977-1-4211556, 4211647, 4211615, 4211728  
+977-1-4211979, 4211729, 4211610

Address:  
Tel:  
Facsimile:  
Email:

Mr. Narayan Prasad Regmi  
Joint Secretary (Project Director)  
Singha Durbar, Kathmandu, Nepal  
+977-1-4211562  
+977-1-4211729  
nregmi@moic.gov.np

Address:  
Tel:  
Facsimile:  
Email:

Mr. Dhruba Lal Rajbamshi  
Under Secretary (Project Manager)  
Singha Durbar, Kathmandu, Nepal  
+977-1-4211830  
+977-1-4211729  
dlraj@hotmail.com

**V. GRANT PROCESSING HISTORY**

Approval of PPTA	1 December 2006
Fact-finding Mission	30 July – 1 Aug 2007
Management Review Meeting	3 September 2007
Appraisal Mission	13-21 September 2007
Staff Review Committee Meeting	5 October 2007
Grant Negotiations	8 October 2007
Final Grant Negotiations	27 November 2007
RRP Board circulation	26 November 2007
Board Consideration and Grant Approval	17 December 2007
Signing of Grant Agreement	9 February 2009
Grant Effectiveness	2 July 2009

## Annex 1: Project Definition

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### 1.1 Sponsors, Stakeholders and External Agencies

(i) **Sponsors:**

- Ministry of Finance (MOF) of Nepal
- Asian Development Bank

(ii) **Stakeholders:**

- Ministry of Information and Communication (Nepal)
- Ministry of Environment, Science, and Technology
- Nepal Telecommunications Authority

### 1.2 Impact and Outcomes

(i) **Impact:**

Enhanced regional flow, sharing, and integration of information, content, services, knowledge, and ideas in the SASEC Subregion.

(ii) **Outcomes:**

ICT made more accessible, affordable, inclusive, sustainable, and useful to remote and rural communities, entrepreneurs, and research and training institutes in all SASEC countries

### 1.3 Outputs

The Project has three components:

1. **SASEC Regional Network:** will consist of (i) extensive existing broadband network owned by telecom service providers in each country, to be interconnected under the Project; owned by telecom service providers in each country, to be interconnected under the Project; (ii) a new fiber-optic network to be built; and (iii) four access gateways at specific sites in each country, linked to the border township within each country for connectivity to the other countries.

1.1 *Fiber Optic Network* - A 433 kilometers alternative fiber-optic route from Hetauda to Biratnagar via the Nepal Electrical Authority transmission power grid network will be laid to provide a redundant (self-healing ring) national network from Hetauda to the town of Biratnagar.

1.2 *Access Gateways and Border-Connectivity Townships* - The border-connectivity townships are effective strategic cable landing points in each SASEC country. The border town or junction location becomes a focus for improving connectivity and developing further capacity that can (i) be carried to the in-country access gateway, (ii) provide further benefits to the cross-border town, and (iii) provide strategic national cable routes and valuable rural connection drop-off points along the link between the border town and the access gateway. Seven border-connectivity townships were selected under the Project, Biratnagar in Nepal. Border core router and equipment will be installed in the landing station in Biratnagar, Nepal.

2. **SASEC Village Network** - The village network requires a central hub supported by an information exchange that constantly collects, standardizes, and redistributes traffic generating community information from all participating villages across the country through a village intranet. A SASEC village network will be established under the Project. Five to six hub CECs will be built in each country, and five spoke CECs branching from each hub will be connected to the SASEC Regional network. This will enable local networking and local information sourcing from within rural communities across borders and thereby drive rapid ICT uptake by the rural

communities. The component will support (i) establishment of a rural wireless broadband network; (ii) development of a portal service (voice, chatting, video conferencing, e-mail, community bulletin, etc) and a knowledge database management system; and (iii) the establishment of 110 CECs in the four SASEC countries, linked to the SASEC regional network. The SASEC village network will enable CECs in the villages to become access points for interaction with the SASEC regional network, and thereby enable the CECs themselves to operate as hubs for other CECs in the local area. Villages, once connected to the SASEC village network, will be able to generate and maintain information that SASEC rural communities, via CECs, can interact with and add to, using the SASEC regional network as the delivery mechanism.

3. **SASEC Research and Training Network** - will promote regional knowledge sharing and innovation by building human resource capacity and supporting local ICT start-ups. The research and training network will therefore serve as a SASEC regional ICT knowledge network providing teaching, research, and professional development support for local innovation and entrepreneurship. The Project will establish a research and training center in a selected ICT research institute in each of the SASEC countries by providing (i) connectivity to the SASEC regional network, (ii) support for faculty mobilization and space rental, and (iii) ICT development support.

#### **Piggybacked Technical Assistance**

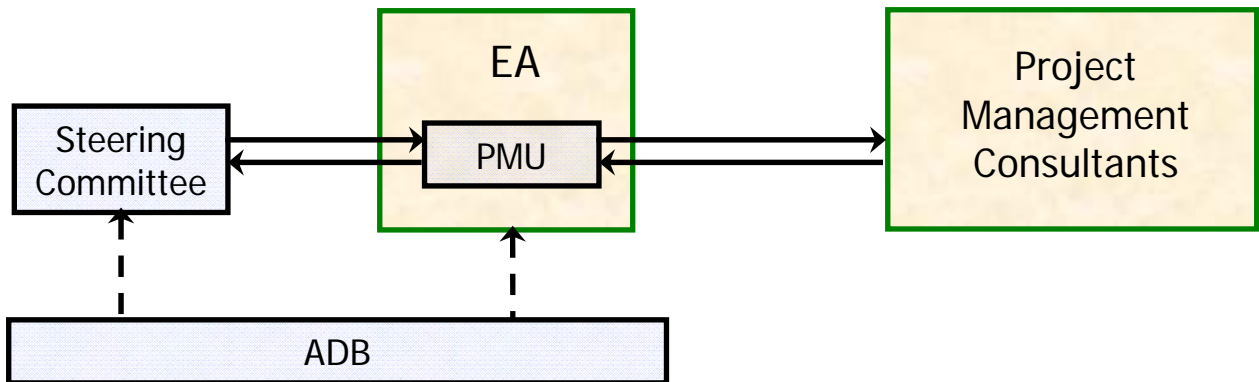
4. The TA will assist four SASEC research and training centers in carrying out activities for ICT skill and business development. The total cost of the TA is estimated at \$4.4 million, to be financed on a grant basis from ADB's Regional Cooperation and Integration Fund. The TA is expected to be implemented over 42 months, from July 2009 to December 2012.

## Annex 2: Project Management

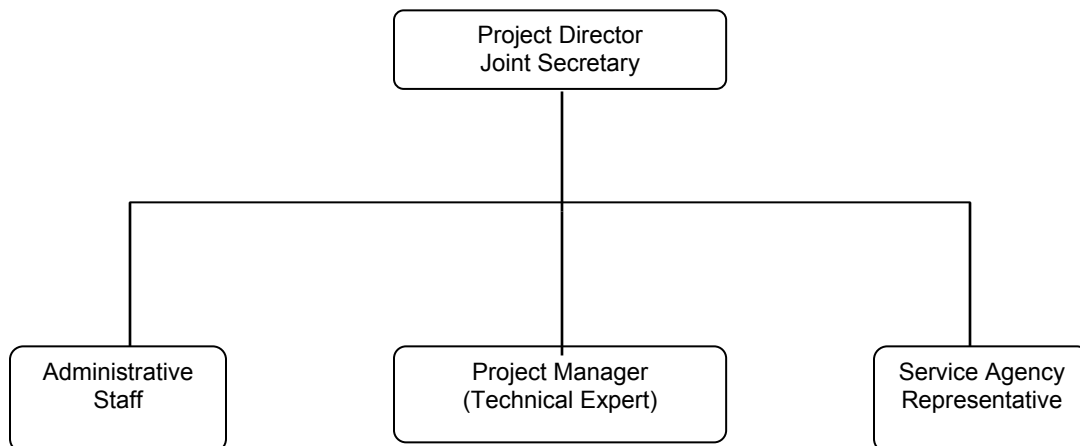
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### 2.1 Project Management Organization

#### (i) Project Organization Structure



#### (ii) Project Management Unit – Organization Chart



## Annex 2: Project Management

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### 2.2 Roles and Responsibilities

#### (i) Strategic and Management Level

- Project Steering Committee – Supervise and monitor overall project implementation. It will also provide overall guidance to the project management units in coordinating joint activities.

#### (ii) Operational Level

- Project Management Unit (PMU)– responsible to oversee project implementation activities in coordination with the project management consultants. Detailed responsibilities include:
  - (i) recruit the project management consultants in consultation with ADB;
  - (ii) supervise and monitor the work of the project management consultants;
  - (iii) maintain the project accounts, endorse the invoices of the project management consultants, and prepare withdrawal requests for payment to contractors;
  - (iv) prepare the yearly financial statement for the project account and have it audited by an external auditor; and
  - (v) report monthly on the progress of the implementation to the steering committee and ADB.
- Project Management Consultants (PMCs) – assist the executing agency (EA) in implementing the Project.

## Annex 3: Procurement Plan

### 3.1 Process Thresholds and Reviews

- (i) **Thresholds** – Except as ADB may otherwise agree, the following process thresholds shall apply to procurement of goods and works

Procurement of Goods and Works	
Method	Threshold
International competitive bidding for works	> \$1,000,000
International competitive bidding for goods	> \$500,000
National competitive bidding for works	≤ \$1,000,000 and > \$100,000
National competitive bidding for goods	≤ \$500,000 and > \$100,000
Shopping for works	≤ \$100,000
Shopping for goods	≤ \$100,000
Direct contracting	≤ \$10,000

- (ii) **Reviews** – Except as ADB may otherwise agree, the following prior or post review requirements apply to the various procurement and consultant recruitment methods used for the project

Procurement of Goods and Works		
Procurement Method	Prior or Post	Comments
International competitive bidding for works	Prior	Use subject to ADB's <i>Procurement Guidelines</i> (2007, as amended from time to time), Chapter III, and Project Administration Instructions (PAI) 3.03
International competitive bidding for goods	Prior	Use subject to ADB's <i>Procurement Guidelines</i> , Chapter III, and PAI 3.03
National competitive bidding for works	Prior	Use subject to the provisions of the NCB Annex, <sup>a</sup> ADB's <i>Procurement Guidelines</i> , para. 3.3/3.4, and PAI 3.04.
National competitive bidding for goods	Prior	
Shopping for works	Post	Use subject to ADB's <i>Procurement Guidelines</i> , para. 3.5, and PAI 3.04 C
Shopping for goods	Post	
Limited international bidding	Prior	Use subject to ADB's <i>Procurement Guidelines</i> , Section 3.2, and PAI 3.03
Direct contracting	Post	ADB needs to be satisfied that the prices to be paid are reasonable, and the method applied is in accordance with ADB's <i>Procurement Guidelines</i> , para. 3.6, and PAI 3.05 A

Recruitment of Consulting Firms		
Recruitment Method	Prior or Post	Thresholds / Comments
Quality- and cost-based selection (80:20) of firm by ADB	Prior	Threshold: >\$200,000 Executing Agency (EA) selects, negotiates, and manages the contract. Four EA submissions (to ADB) are required, namely: (i) draft RFP and shortlist, (ii) technical evaluation report, (iii) overall ranking report, and (iv) draft negotiated contract. See Consulting Guidelines, Chapter II, A.1.a., and PAI 2.02, Part E, B. Type of proposal dependent on budget.

Recruitment of Consulting Firms		
Recruitment Method	Prior or Post	Thresholds / Comments
Consultants qualification selection	Prior	Threshold: ≤ \$200,000 Included as a possible option. EA selects, negotiates, and manages the contract.
Least-cost selection (LCS)	Prior	Threshold: ≤ \$100,000 Included as a possible option. EA selects, negotiates, and manages the contract.

<sup>a</sup> NCB Annex to Loan Agreement

### 3.2 Goods and Works Contracts (in excess of \$1,000,000)

General Description	Value (\$'000)	Procurement Method	Prequalification of Bidders (Yes/No)	Advertisement Date	Comments
<b>A. System Development, Supply, and Installation contract through ADB financing.</b>					
SASEC regional network and village network for Nepal	9,530	ICB	No	4th Quarter 2010	Single bid – following ADB's <i>Procurement Guidelines</i>

ADB = Asian Development Bank, ICB = international competitive bidding, SASEC = South Asia Subregional Economic Cooperation.

### 3.3 Consulting Services Contracts (in excess of \$100,000)

General Description	Contract Value (\$'000)	Recruitment Method	Advertisement Date	International or National Assignment	Comments
Project management consultant for Nepal	676	QCBS (80:20), STP	October 2009	International	EA selects, negotiates, and contracts

ADB = Asian Development Bank, EA = executing agency, QCBS = quality cost based selection, STP = simplified technical proposal.

### 3.4 National Competitive Bidding Annex

This has been posted on the ADB website  
<http://coso.asiandevbank.org/documents/ellah/NCBAnnexNEP.doc>

**Note:** ADB's Guidelines for Procurement require the use of appropriate Standard Bidding Document (SBD) issued by ADB for the procurement of ADB-financed civil works, goods, and related services. These SBDs and other procurement documents are posted on the internet at <http://www.adb.org/Procurement/prequalification-bid-documents.asp>.

## Annex 4: Safeguards Plan

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### 4.1 Environment

- The Project is classified as category B according to the *Environmental Assessment Guidelines* (2003) of ADB.
- The environment assessment was carried out between July and August 2007, on the basis of secondary data and field visits.
- The project components and activities have very limited environmental interface.
- The environmental impact was assessed on the basis of the proposed design of the network access gateways (co-location facilities), in-country link access, and border connectivity. Since most of the above facilities already have the requisite infrastructure, the required right-of-way, and access to the site, no direct significant impact is anticipated from the proposed development.
- The initial environmental examination conformed to the relevant laws and regulations of the government of Nepal, and ADB's *Environmental Policy* (2002) and *Environmental Assessment Requirements* (2003).
- To avoid any environmental impact due to CECs and wireless connectivity development, efforts will be made to select the pole locations such that no loss of trees is involved. Wherever tree cutting is unavoidable, provision will be made for compensatory afforestation (25 trees planted for every tree cut, according to the practice in Nepal). Nepal has several protected areas<sup>4</sup> (eight national parks, three conservation areas, three wildlife reserves). Efforts are to be made to avoid routing any fiber-optic link or setting up wireless connectivity pole for CEC development in the protected areas.
- The CECs or co-location sites should not be located in flood-prone areas.
- Nepal is in an earthquake-prone area. This fact should be considered in the structural design of the CECs or co-location site building.
- To mitigate the likely environmental impact, the recycling of e-waste and used uninterrupted power supply batteries through the supplier of these items is proposed. The network access gateways and CECs are to be equipped with requisite firefighting facilities. A septic tank for treating domestic sewage at the CECs is also to be provided. If backup power is provided through a diesel generating set, then provision will be made to ensure adequate stack height with muffler and acoustic enclosure to prevent air and noise pollution.
- The environmental management plan (EMP) is aimed at ensuring that the adverse impact associated with the Project is properly mitigated to an acceptable level through the most technically and economically feasible option, if not prevented outright.
- The EMP will also ensure that the positive impact is sustained and enhanced. The EMP consists of a set of mitigation, monitoring, and institutional measures to

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<sup>4</sup> Department of Forest Research and Survey. 1999. Forest and Shrub Cover of Nepal. May; and Department of National Parks and Wildlife Conservation. 2006. Forging Partnerships in Promoting Sustainable Livelihoods.

be taken in a time-bound manner during the design, construction, and operation stages of the Project.

- The mitigation measures to be implemented will depend on the nature of the impact associated with the various project activities. The implementation period will coincide with the final project implementation schedule.
- The Project may have one primary environmental emergency—fire at access gateways, CECs, and border-connectivity townships—plus pollution and waste discharge. The requisite fire protection infrastructure should be provided at these locations. A communication system for exclusively this purpose should also be established with fire departments.

#### **4.2 Land Acquisition and Resettlement (LAR)**

- The Project has been developed in such a manner that there will be no need for land acquisition and resettlement. By developing the information highway data transfer facility and by housing the CECs within existing buildings in rural areas, the need for land has been avoided.
- The building for the data center will be built on government land within the internet service provider premises.

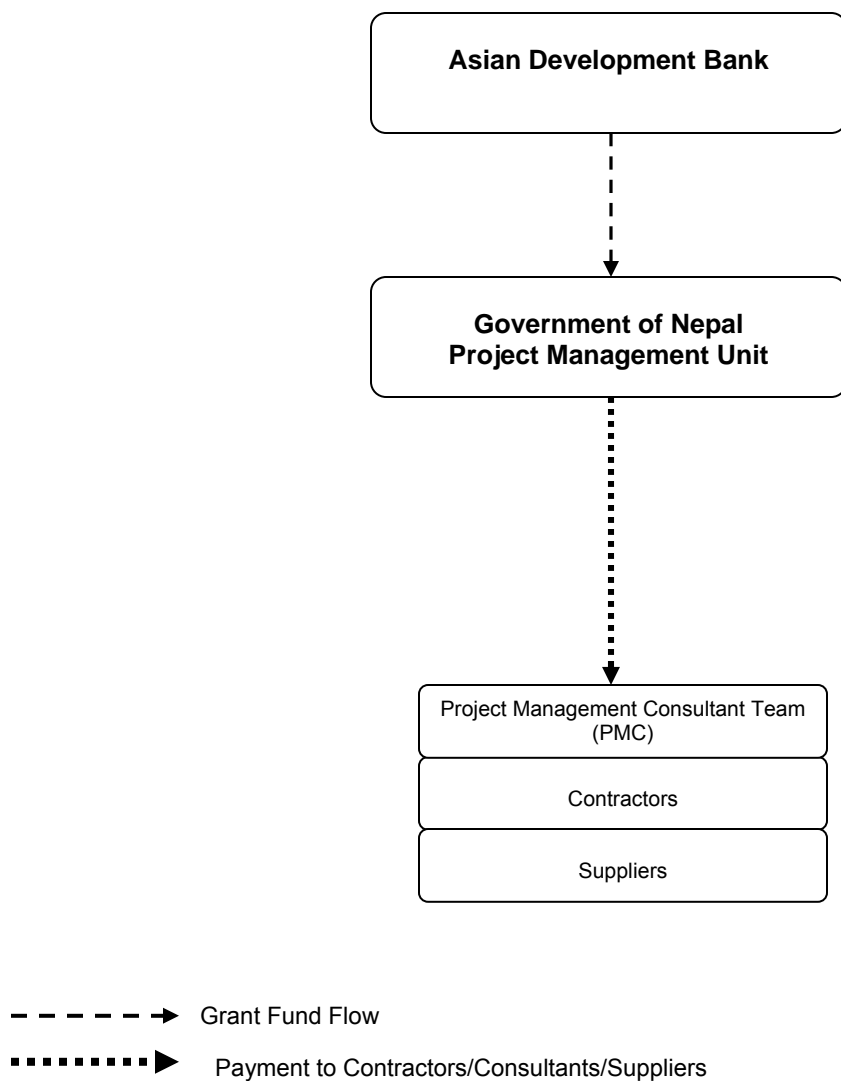
#### **4.3 Indigenous People (IP)**

The positive impact on IP is very similar to the impact on non-IPs. Therefore, no Indigenous People Development Plan is required.

## Annex 5: Financing Plan

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### 5.1 Funds Flow



### 5.2 Financing Plan

Source	Amount	Share (%)
Asian Development Bank (ADF)	9.0	80.0
Government	2.2	20.0
<b>Total</b>	<b>11.2</b>	<b>100.0</b>

## Annex 5: Financing Plan

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### 5.3 Disbursement Arrangements

The grant proceeds will be disbursed according to *ADB's Loan Disbursement Handbook* (2007, as amended from time to time), and subject to the provision of Schedule 2 of the Grant Agreement.

- (i) Basic Requirements for Disbursement
  - Authorized signatory letter from the Ministry of Finance of Nepal addressed to ADB
  - Specimen signatures of authorized signatories
  - Any subsequent change in the list of authorized representatives must be reported immediately and authenticated specimen signatures of new representatives must also be provided.
- (ii) Direct Payment – ADB at the borrower's request, pays a designated beneficiary directly. Narrative procedures are in Appendix 14 of the *ADB Loan Disbursement Handbook*.
- (ii) Reimbursement Procedure – ADB pay's from the loan account to the borrower's account or, in some cases, to the project account for eligible expenditures which have been incurred and paid for by the borrower or EA out of its budget allocation or its own resources.
- (iii) Statement of Expenditures (SOE) under Reimbursement Procedure – a simplified procedure requiring no submission of supporting documentation. SOE will be used in reimbursing eligible expenditures. Any individual payment to be reimbursed under the SOE procedure shall not exceed \$10,000.

**Note:** Withdrawal applications and other loan disbursement information are available at ADB Controller's Department's website <http://lfis.adb.org>.

## Annex 5: Financing Plan

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### 5.4 Allocation Table

ALLOCATION AND WITHDRAWAL OF GRANT PROCEEDS			
CATEGORY			ADB FINANCING
Number	Item	Amount Allocated \$'000	Percentage and Basis for Withdrawal from the Grant Account
1	System development, supply and installation	8,320	87 percent of total expenditure
2	Consulting Services (a) Regional \$207,000 (b) National \$303,000	510	100 percent of total expenditure*
3	Administrative Support	80	100 percent of total expenditure*
4	Unallocated	90	
	<b>Total</b>	<b>9,000</b>	

\* Exclusive of taxes and duties imposed within the territory of the Borrower.

### 5.5 Government Financing and Fund Flow

- (i) \$2.2 million equivalent will take the form of counterpart funds from the Government's resources.
- (ii) Fund Flow - please refer to 5.1

## Annex 6: Investment (Cost) Plan

### 6.1 Detailed Cost Estimate by Expenditure Category

Item	Cost \$ '000	ADB	Nepal	Other
		\$ '000	\$ '000	Countries Cost (\$000)
<b>A. Base Cost</b>				
1. SASEC Regional Network	16,540	12,970	1,150	2,420
2. SASEC Village Network	2,750	1,840	100	810
3. Project Management Consultant	2,100	1,530	40	530
4. Administrative Support	320	240	0	80

ADB = Asian Development Bank, SASEC = South Asia Subregional Economic Cooperation.

Source: Asian Development Bank estimates.

### 6.2 Forecast of Cost to Complete

#### Disbursement (\$'000)

2009	2010	2011	2012
0	1200	4600	3200

## Annex 7: Execution Plan

### 7.1 Work Breakdown Structure (WBS)

Level 1	Level 2	Responsible Parties				
		MOIC/ EA	PMU	CON	CNT	ADB
<b>1. Pre-Start Up</b>						
	1.1 Board Approval					✓
	1.2 Grant Signing	✓*				✓
	1.3 Grant Effectiveness	✓*				✓
	1.4 Issue CSRNs	✓*				✓
<b>2. PMU and PIU established</b>						
	2.1 Set up PMU and PIU office	✓*	✓			✓
	2.2 Recruit PMU and PIU office staff		✓*			✓
	2.3 Procure office equipment and materials		✓*			✓
	2.4 Engage project management consultants		✓*			✓
<b>3. SASEC Regional Network</b>						
	3.1 Select a service agency	✓*				✓
	3.2 Sign bilateral network agreements by end of November 2010	✓*	✓			✓
	3.3 Develop the detailed network design, by the end of November 2010		✓*	✓		✓
	3.4 Prepare bid documents, by the end of November 2010		✓*	✓		✓
	3.5 Complete the tendering and selection of contractors, by the end of May 2011		✓*	✓		✓
	3.6 Install, test, and operate the network, by the end of February 2012		✓*	✓		✓
	3.7 Sign four in-country agreements for network transfer and operation, by the end of February 2012		✓*	✓		✓
	3.8 Complete peering agreements, by the end of February 2012		✓*	✓		✓
<b>4. SASEC Village Network</b>						
	4.1 Select rural Internet service providers (ISPs) by end November 2010	✓*	✓			✓
	4.2 Develop the detailed network design, by the end of November 2010	✓	✓	✓*		✓
	4.3 Prepare bid documents, by the end of November 2010	✓	✓*	✓		✓
	4.4 Complete the tendering and selection of contractors, by the end of May 2011	✓	✓*	✓		✓
	4.5 Install, test, and operate the network and community e-centers, by the end of February 2012		✓	✓	✓*	✓
	4.6 Sign the in-country agreements for ownership transfer and operation, by the end of February 2012	✓*	✓			✓
<b>5. Research and Training Network</b>						
	5.1 Select a university to serve as country host for the research and training center (RTC) by end of December 2009	✓*	✓			✓
	5.2 Develop the detailed design for RTC and their connectivity to the SASEC regional network, by the end of November 2010	✓	✓	✓	✓*	✓
	5.3 Prepare bid documents, by the end of November 2010	✓	✓	✓	✓*	✓
	5.4 Complete the tendering and selection of contractors, by the end of May 2011	✓*	✓	✓		✓
	5.5 Install, test, and operate RTC and its network, by the end of February 2012	✓*	✓	✓		✓

Level 1	Level 2	Responsible Parties				
<b>6. Project Management and Administration</b>						
	6.1 Project Administration	✓*	✓			✓
	6.2 Construction Supervision	✓	✓*	✓		✓
	6.3 Project Performance Monitoring	✓*	✓	✓		✓
	6.4 Withdrawal and Disbursement	✓*	✓			✓
	6.5 Accounting and Auditing	✓*	✓			✓
	6.6 Covenant Compliance	✓*	✓			✓
	6.7 Midterm Review	✓*	✓			✓
	6.8 Grant Completion	✓*	✓	✓		✓
	6.9 Grant Loan Account Closing	✓				✓*

ADB = Asian Development Bank, CNT = Contractors, CON = Consultants, CSRN = Consulting Services Recruitment Notice, EA = executing agency, MOIC = Ministry of Information and Communications, PIU = Project Implementation Unit, PMU = Project Management Unit.

\* with primary responsibility

## Annex 7: Execution Plan

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### 7.2 Gantt Chart

Milestone	2009	2010				2011				2012
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
1. Project Management Consultant Recruitment	■	■	■							
2. Network Design			■	■	■					
3. Preparation of Bid Document				■	■					
4. Tendering and Selection of Contractors / Service Agencies					■	■	■			
5. Installation, Testing, and Acceptance of Networks							■	■	■	■

## **Annex 7: Execution Plan**

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### **7.3 Annual Operational Plan–2009**

1. Signing of Minutes of ICT Working Group Meeting: 2 July 2009. (Grant Effectiveness)
2. Inauguration of Project Steering Committee: 3 July 2009
3. Recruitment of Project Management Consultant
  - (i) Invite Expression of Interest: mid October
  - (ii) Issue Request for Proposal: mid December

## Annex 8: Performance Monitoring and Evaluation

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### 8.1 Deliverables

- Enhanced regional flow, sharing, and integration of information, content, services, knowledge, and ideas in the SASEC subregion
- ICT made more accessible, affordable, inclusive, sustainable, and useful to remote and rural communities, entrepreneurs, and research and training institutes in all SASEC countries
- Progress Reports
- Project Performance Monitoring and Evaluation System

### 8.2 Performance Indicators

- **Outcomes:**
  - Exchange of social capital between SASEC country villages through the SASEC regional network and village network, within 3 years after project completion
  - 10% increase in regional and country websites, e-business, and applications, within 3 years after project completion
  - Establishment of the SASEC education and research collaborative network linking universities and rural communities in the SASEC countries, within 3 years after project completion
  - 10% increase in tele-density (both in terms of individual household and shared-facility tele-centers) and reduction in communication cost in remote and rural areas, within 2 years after project completion
  - Financially and technically sustainable operation of the SASEC regional network, village network, research and training network by service agencies, universities, and private operators, within 2 years after project completion

- **Outputs – Physical:**

#### *SASEC Regional Network*

- Fiber-optic network, existing or to be built, connecting the SASEC countries: (i) a new cable installation of about 433 km alternative fiber-optic route from Hetauda to Biratnagar
- Access gateway established at Kathmandu, Nepal
- Border township established at Biratnagar
- 4 multilateral, bilateral, and in-country agreements signed: (i) 3 bilateral network agreements, each one signed by the service agencies in two countries; and (ii) an in-country agreements for network transfer and operation, each one signed by the EA and the service agency in each country

#### *SASEC Village Network*

- CECs established - 30 CECs comprising 6 hubs and 5 spoke CECs from each hub connected to SASEC Regional Network
- Rural wireless broadband connectivity established to link CECs to the SASEC regional network
- A village portal and knowledge database system built and operated for voice, chatting, video conference, e-mail, community bulletin, etc., services
- In-country agreements for ownership transfer and operation signed by the EA and selected CEC operators in each country

### *SASEC Research and Training Network*

- A university-based research and training center (RTC) established in each SASEC country
- Broadband connectivity established to link RTCs to the SASEC regional network
- A business linkage challenge fund established to encourage rural entrepreneur investments in ICT-enabled business development
- Online and off-line research and training programs in e-business development and IT professional development, provided through RTCs and CECs
- Awareness building and training to be provided to the communities and governments affected by the Project during project implementation

## **8.3 Process Controls and Monitoring**

- **Project Performance Report (PPR)** – the PPR is part of overall project performance management system, which is being updated basically on a semi-annual updated using the information in the EA's progress report. A sample format of the Quarterly Progress Report is in Appendix 4.

		<b>Due Time</b>
<ul style="list-style-type: none"> <li>• Project Performance Monitoring and Evaluation System               <ul style="list-style-type: none"> <li>- Establishment of Project Performance Monitoring (PPM) indicators and baseline data</li> <li>- Monitoring of PPM indicators compared during implementation and at project completion</li> </ul> </li> </ul>	Grant Agreement, Sched. 4, para. 24	Within three months of Grant Effectiveness
<ul style="list-style-type: none"> <li>• Quarterly Progress Reports<sup>a</sup></li> </ul>	Grant Agreement, Sched. 4, para. 23	Within one month after the end of each quarter
<ul style="list-style-type: none"> <li>• Audited Financial Statements<sup>b</sup></li> </ul>	Grant Agreement, Section 4.02, para (a)	Within 6 months after each financial year
<ul style="list-style-type: none"> <li>• Project Completion Report<sup>c</sup></li> </ul>	Grant Agreement, Sched. 4, para. 23	Within 3 months of physical completion of the Project

<sup>a</sup> for Quarterly Progress Report format, refer to Appendix 4.

<sup>b</sup> for audit requirements, refer to Appendix 6.

<sup>c</sup> for Project Completion Report format, refer to Appendix 5 .

## Annex 9: Major Covenants

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### 9.1 Sector Covenants

#### 1 Project Executing Agency and Project Steering Committee

Ministry of Information and Communication (MOIC), as the Project Executing Agency, shall be responsible for the overall execution and coordination of the Project in Nepal and for coordination of the joint subregional efforts. (*Grant Agreement, Schedule 4, para 1*)

#### 2 Nepal shall take all reasonable measures to ensure that the Project Steering Committee (PSC), established by the SASEC countries:

(a) is mandated to undertake the joint supervision and monitoring of the overall Project implementation, including (i) providing overall guidance for the SASEC PMUs to ensure proper coordination of joint subregional activities, and timely and effective performance of the Project, (ii) supervising strategic planning and review and approving modifications and changes to Project implementation as needed, (iii) approving relevant Project documentation and agreements and facilitating their execution, (iv) ensuring sharing between SASEC countries, of Project outputs, materials, and studies generated under the SASEC Research and Training Network; and (v) resolving any disputes between the SASEC countries and the Project management consultants, regarding Project Implementation issues;

(b) (i) meets, including by telephone or video conferencing, at least every six months or more often if necessary, (ii) has Secretariat support as agreed between SASEC countries, and (iii) submits the minutes of each meeting to ADB for information; and

(c) Appoints the Secretary of MOIC as member. (*Grant Agreement, Schedule 4, para 2*)

#### 3 Project Management Unit and Management Consultants

Nepal shall cause MOIC to: (a) establish the PMU to be headed by the Project Director who shall be at a joint secretary level and (b) ensure that: (i) appropriate full-time staff are assigned to the PMU, including a technical expert (Project Manager), and at least one administrative staff to provide technical expertise and administrative staff to provide technical expertise and administrative support in areas of accounting, contract administration, disbursement, planning and procurement, and (ii) adequate office space and facilities, transport, and secretarial support are provided to the PMU as needed; and (c) ensure that a representative of the Regional Network Service Agency is assigned to work on a full time basis, directly with the PMU. (*Grant Agreement, Schedule 4, para 3*)

#### 4 The PMU shall be responsible for day-to-day implementation of the Project in Nepal and shall work in coordination with the Country Management Consultants to: (a) coordinate national and village activities; (b) handle the bidding processes; (c) recruit consultants, supervise and monitor the outputs and managing contracts; (d) monitor Project progress; (e) prepare withdrawal applications and Project progress reports and the Project completion report for Nepal related activities; (f) maintain Project accounts, prepare the statements of expenditure, complete Grant financial records for auditing and have them audited by an external auditor acceptable to ADB; (g) monitor the socioeconomic impacts of the Project and serve as a liaison point between the Project villages, MOIC, and ADB, and (h) report the progress of Project implementation to the PSC and ADB on a monthly basis. (*Grant Agreement, Schedule 4, para 4*)

#### 5 Nepal (a) authorizes ADB to undertake the selection of, and contract negotiations with the International Project Management Consultants; and (b) in collaboration with the other SASEC countries, shall contract the International Project Management Consultants on a joint basis to assist in Project implementation at the subregional level. Nepal shall engage the Country Management Consultants comprising a Nepal country team consisting of three subteams: (i) a SASEC Regional Network team (ii) a Village Network/Research and Training Network team, with both subteams comprising a team leader, a design engineer, a social development specialist, an environment specialist, and a quality assurance specialist. The management consultants shall be employed to: (a) design all networks to be procured under the Project; (b) prepare bid documents; (c) assist the PMU in tendering (prequalification, evaluation of proposals, etc.); and (d) assist the PMU to supervise contractors. (*Grant Agreement, Schedule 4, para 5*)

## 6 Policy Dialogue

Nepal shall keep ADB informed of, and the Nepal and ADB shall from time to time exchange views on, sector issues, policy reforms and any additional reforms arising during the implementation of the Project and the TA project, that may be considered necessary or desirable. (*Grant Agreement, Schedule 4, para 6*)

## 7 Implementation Issues

### **Component 1: SASEC Regional Network-Optic Fiber Network**

Nepal shall ensure that: (a) the following criteria are used to select the Regional Network Service Agency: (i) availability of national fiber optic network with reliable and expandable capacity, (ii) availability of existing right of way, (iii) availability of optical fiber route that favors location of wireless sites to link rural CEC networks, and (iv) availability of support for next generation technology of network; (b) the Regional Network Service Agency is selected through an open tender (where there are multiple eligible candidates) or a closed tender (where there are less than two eligible candidates); and (c) the tender is based on technical and financial capability to deliver the desired solution within and across the borders of Nepal. (*Grant Agreement, Schedule 4, para 7*)

- 8 Within nine months after Grant Effectiveness, Nepal shall have entered into a service agency agreement with the Regional Network Service Agency which: (a) governs the obligations of the Regional Network Service Agency to keep, manage, and operate the national Fiber Optic Network and equipment as designed, built, and installed by the Project and serve the requirements of the SASEC Regional Network; and (b) requires the Regional Network Service Agency to contribute a certain portion of the revenue accrued from operating the SASEC Regional Network to the Resource Pool. Nepal shall ensure that the contributions and investments of the Resource Pool are used to support the financial sustainability of the SASEC Village Network in Nepal, and the SASEC Research and Training Network. (*Grant Agreement, Schedule 4, para 8*)

### **Component 2: SASEC Village Network**

Nepal shall cause MOIC to ensure that: (a) the operation of the SASEC Village Network and the establishment of the CECs is franchised to private entrepreneurs such as rural ISPs or NGOs that are involved in similar CEC operations using the most suitable tender modality, such as by auction or leasing; (b) where appropriate, the potential Village Service Agencies, in the course of bidding processes, will be required to indicate the necessity of social subsidy in circumstances where the CECs they bid for, are assessed as financially non-viable; and (c) MOIC selects each Village Service Agency based on a selection process in which the Village Service Agency has offered the highest price or required the lowest subsidy, to operate and maintain the relevant contract package of CECs and the operation of the SASEC Village Network. (*Grant Agreement, Schedule 4, para 12*)

- 10 Within 12 months after Grant Effectiveness, Nepal shall cause MOIC to enter into an agreement between MOIC and each Village Service Agency which prescribes: (a) the obligations of the Village Service Agency to manage and operate the SASEC Village Network; (b) the social responsibility of the Village Service Agency by specifying minimum services they should provide for the communities particularly for the poor and women; (c) the formula for determining any financial assistance that MOIC needs to provide to ensure the financial sustainability of CEC operation; and (d) the terms and conditions for use of, including the selection criteria for users of, the Resource Pool. (*Grant Agreement, Schedule 4, para 13*)

### **Component Three - SASEC Research and Training Network**

Within 12 months after Grant Effectiveness, Nepal shall cause MOIC to select and enter into an agreement between MOIC and each RTN Service Agency which prescribes: (a) the obligations of the RTN Service Agency to manage and operate the SASEC Research and Training Network; and (b) the terms and conditions for use of: (i) the Content Development Incubation Support, including the selection criteria for users, and (ii) the research and training center operations. (*Grant Agreement, Schedule 4, para 13*)

## 9.2 Financial Covenants

### 12 Reallocation

Notwithstanding the allocation of Grant proceeds set forth in the Table, (a) if the amount of the Grant allocated to any Category appears to be insufficient to finance all agreed expenditures in that Category, ADB may, by notice to the Recipient, reallocate to such Category, to the extent required to meet the estimated shortfall, amounts of the Grant which have been allocated to another Category but, in the opinion of ADB, are not needed to meet other expenditures and if such reallocation cannot fully meet the estimated shortfall, reduce the withdrawal percentage applicable to such expenditures in order that further withdrawals under such Category may continue until all expenditures thereunder shall have been made; and

(b) if the amount of the Grant then allocated to any Category appears to exceed all agreed expenditures in that Category, ADB may, by notice to the Recipient, reallocate such excess amount to any other Category. (*Grant Agreement, Schedule 2, para 3*)

- 13 (a) Nepal shall (i) maintain, or cause to be maintained, separate accounts for the Project; (ii) have such accounts and related financial statements audited annually, in accordance with appropriate auditing standards consistently applied, by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB; (iii) furnish to ADB, as soon as available but in any event not later than 6 months after the end of each related fiscal year, certified copies of such audited accounts and financial statements and the report of the auditors relating thereto (including the auditors' Grant Agreement as well as on the use of the procedures for statement of expenditures), all in the English language; and (iv) furnish to ADB such other information concerning such accounts and financial statements and the audit thereof as ADB shall from time to time reasonably request.

(b) Nepal shall enable ADB, upon ADB's request, to discuss the financial statements for the Project and its financial affairs related to the Project from time to time with the auditors appointed by Nepal pursuant to Section 4.02(a) hereabove, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB, provided that any such discussion shall be conducted only in the presence of an authorized officer of Nepal unless Nepal shall otherwise agree. (*Grant Agreement, Section 4.02*)

### 14 Counterpart Support

Nepal shall also ensure that: (a) necessary support from relevant government agencies is forthcoming in a timely manner so that all necessary authorizations and support is given so that the Project can be implemented in a timely manner and in coordination with other ICT activities; and (b) throughout implementation of the Project and without limiting the generality of Section 6.05 of the Grant Regulations, adequate budgetary allocations for the required counterpart funds are made, approved, and released in a timely manner to ensure efficient and timely implementation of the Project during each year of Project implementation and that necessary budgetary allocations are provided to meet the recurrent costs under the Project for the operation and maintenance of the Project facilities both during and after Project Completion. (*Grant Agreement, Schedule 4, para 19*)

### 15 Accounts and Audits

Without prejudice to the generality of Section 4.02 of this Grant Agreement, Nepal shall ensure that a separate accounting system for Project expenditures is maintained in accordance with sound accounting principles. All Project accounts, including financial statements, statements of expenditures and account records, shall be audited annually as part of the regular audit accounts and financial statements by an independent and external audit firm. The consolidated audit reports (in English) shall be submitted to ADB in accordance with the requirements and within the deadlines stated in Section 4.02(a) of this Grant Agreement. The audit opinion shall include: (a) an assessment of the adequacy of accounting and internal controls systems with respect to Project expenditures and other financial transactions, and to ensure safe custody of Project financed assets; (b) a determination as to whether Nepal and the Project Executing Agency have maintained adequate documentation for all financial transactions, specifically including the SOE procedures; and (c) confirmation of compliance with this Grant Agreement's financial covenants and ADB

requirements for Project financial management. ADB reserves the right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive, or coercive practices relating to the Project. (*Grant Agreement, Schedule 4, para 22*)

### 9.3 Environmental Covenant

#### 16 Environmental Protection

Nepal shall ensure or shall cause MOIC to ensure that: (a) the Project will be implemented by taking into consideration the ADB's Environment Policy (2002), and Nepal's Environment Protection Act, 1997; (b) the construction of data center will be carried out by taking into account the recommendations from the initial environmental examination and by strictly following the conditions attached in the building permit; and (c) any unexpected environmental impact will be addressed following consultations with ADB. (*Grant Agreement, Schedule 4, para 15*)

### 9.4 Social Covenants

#### 17 Land Acquisition and Resettlement

Nepal shall also cause MOIC to ensure that: (a) the Fiber Optic Network and related equipment will be co-located with existing facilities whenever required, and (b) in the event of: (i) any unanticipated or unforeseen involuntary resettlement, (ii) private land acquisition or, (iii) resettlement activities during Project implementation, the Project will be implemented in accordance with ADB's *Policy on Involuntary Resettlement* (1995), *Policy on Indigenous Peoples* (1998), and in accordance with all applicable laws and regulations in Nepal. In the event of discrepancies between the Nepal's laws and regulations and ADB's Policy, ADB's Policy shall prevail. (*Grant Agreement, Schedule 4, para 10*)

- 18 Within 12 months after Grant Effectiveness, Nepal shall have taken all reasonable measures to cause its Regional Network Service Agency to have entered into Bilateral Interconnection Agreements with each of the Regional Network Service Agencies of the other SASEC countries, which: (a) set the terms and conditions for interconnection of, and exchange of digital traffic between, their respective in-country networks including technical specifications of networks and maintenance; and (b) detail the mechanism for revenue and cost sharing. (*Grant Agreement, Schedule 4, para 11*)

#### 19 Labor Laws

Nepal shall cause MOIC to ensure that all civil works and system development and installation: (a) contractors (i) comply with all applicable labor laws, (ii) do not employ child labor for construction and maintenance activities, (iii) do not differentiate wages between men and women particularly for work of equal value, (iv) encourage employment of the local poor who meet the job and efficiency requirements, particularly women, and (v) provide timely payment of wages on at least a monthly basis and safe working conditions to all workers; and (b) contracts include specific clauses on the undertakings described in (a) above; and (c) the PMU strictly monitors compliance during Project implementation. (*Grant Agreement, Schedule 4, para 16*)

#### 20 Good Governance and Anticorruption

Consistent with ADB's and Nepal's commitment to good governance, accountability and transparency, Nepal shall ensure that: (a) the Grant funds are utilized effectively and efficiently to implement the Project and to achieve the Project objectives and necessary measures are undertaken to create and sustain a corruption-free environment; (b) Nepal's laws on anticorruption, and ADB's *Policy on Anticorruption*, 1998 as amended to date, are strictly enforced and are being complied with during Project implementation, and that relevant provisions of ADB's policy on Anticorruption, are included in all bidding documents for the Project; (c) Nepal's agencies facilitate ADB's exercise of its right to investigate, directly or through its agents, any alleged corrupt, fraudulent, collusive or coercive practices relating to the Project; (d) the MOIC conducts periodic inspections on the Project contractors' activities related to fund withdrawals and settlements; and (e) ensure that all contracts financed by ADB in connection with the Project include provisions specifying the right of ADB to audit and examine the records and accounts of the EA and all

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contractors, suppliers, consultants, and other service providers as they relate to the Project. (*Grant Agreement, Schedule 4, para 17*)

21 Gender

Nepal shall ensure that: (a) the gender strategy approved under the Project is implemented in a timely manner and that adequate resources are allocated for this purpose; (b) all necessary authorizations are provided in a timely manner for Project activities which acknowledge and address the fact that risks and protective factors differ according to gender and that the gender norms that affect ICT applications will be addressed; (c) targets and design features outlined in the gender strategy are incorporated across Project activities including PPM Indicators; and (d) equal employment and access to opportunities, including training, is provided for men and women during Project implementation. (*Grant Agreement, Schedule 4, para 20*)

22 Ethnic Minorities

Nepal shall ensure the ethnic minority development framework approved under the Project, is fully considered and applied to all Project activities and that PMU monitors and reviews the implementation of specific measures, and addresses any problems in a prompt manner or where no resolution is forthcoming or is delayed, the PMU shall raise the issue to senior officials for guidance. (*Grant Agreement, Schedule 4, para 21*)

**9.5 Other Covenants**

23 Progress Reports

Without limiting the generality of Section 6.04 of the Grant Regulations, Nepal, during the implementation period of the Project, shall submit to ADB, through the PMU, quarterly progress reports on the Project summarizing: (a) progress made against established targets; (b) delays and problems encountered, and actions taken to resolve issues; (c) compliance with covenants in this Agreement; (d) proposed program of activities for the next six months; (e) expected progress during the succeeding period; and (f) a Project completion report within three months after completion of the Project.. (*Grant Agreement, Schedule 4, para 23*)

24 Project Performance Monitoring and Evaluation

Nepal, through the PMU shall: (a) monitor and evaluate Project impacts in accordance with the Project Performance Monitoring (PPM) and Evaluation System acceptable to ADB; (b) discuss and agree with ADB and in conjunction with the management consultants, the PPM Indicators and baseline data to be prepared by the PMU, within three months of Grant Effectiveness; and (c) ensure that the PPM indicators are monitored and compared during Project implementation and at Project completion. The PMU shall ensure timely and effective data collection systems are in place and that information collected is analyzed and used to refine activities through the course of Project implementation, with results being reported to the PSC, ADB, and Management consultants periodically. Without limiting the generality of the above, the PPM Indicators and baseline data shall, to the extent possible, make full use of gender and ethnicity disaggregated data and information and shall be applied in a flexible manner. (*Grant Agreement, Schedule 4, para 24*)

## **Annex 10: Appendixes**

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Appendix 1	Design and Monitoring Framework
Appendix 2	Disbursement Procedures
Appendix 3	Project Performance Report
Appendix 4	Quarterly Progress Report
Appendix 5	Project Completion Report
Appendix 6	Audit Requirements
Appendix 7	Draft Terms of Reference for Project Management Consulting Services

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## DESIGN AND MONITORING FRAMEWORK

<b>Design Summary</b>	<b>Performance Targets/Indicators</b>	<b>Data Sources/Reporting Mechanisms</b>	<b>Assumptions and Risks</b>
<p><b>Impact</b> Enhanced regional flow, sharing, and integration of information, content, services, knowledge, and ideas in the SASEC subregion</p>	<p>20% improvement in the livelihood and well-being of rural communities in selected pilot districts in all SASEC countries, within 5 years after project completion</p> <p>10% yearly decrease in the cost and increase in the quality of data communication between the SASEC countries, for 5 years after project completion</p> <p>10% increase in the ICT composite index of e-readiness for all SASEC countries, within 5 years after project completion</p> <p>10% increase in ICT-enabled regional activities, such as regional e-trade, e-tourism, and e-training, within 5 years after project completion</p>	<p>Compilation of government statistics</p> <p>Baseline study and impact monitoring report</p> <p>ADB project completion report</p> <p>ADB evaluation missions</p> <p>Digital Opportunity Index published by the International Telecommunication Union (ITU) and other ICT indices published by United Nations organizations</p>	<p><b>Assumption</b> Favorable political support and economic activities at the regional level among the SASEC countries</p>
<p><b>Outcome</b> ICT made more accessible, affordable, inclusive, sustainable, and useful to remote and rural communities, entrepreneurs, and research and training institutes in all SASEC countries</p>	<p>Exchange of social capital<sup>a</sup> between SASEC country villages through the SASEC regional network and village network, within 3 years after project completion</p> <p>10% increase in regional and country websites, e-business, and applications, within 3 years after project completion</p> <p>Establishment of the SASEC education and research collaborative network linking universities and rural communities in the SASEC countries, within 3 years after project completion</p> <p>10% increase in tele-density (both in terms of individual household and shared-facility tele-centers) and reduction in communication cost in remote and rural areas, within 2 years after project completion</p> <p>Financially and technically sustainable operation of the SASEC regional network, village network, research and training network by service agencies, universities, and private operators, within 2 years after project completion</p>	<p>ITU tele-density statistics</p> <p>Financial reports of service agencies</p> <p>ADB project completion report</p> <p>Report on the survey of project households, businesses, universities, and governments</p>	<p><b>Assumptions</b> Proper implementation and enforcement of multilateral and bilateral agreements among the SASEC countries and in-country agreements</p> <p>Competitive, nondiscriminatory, and transparent operation of regional network by the SASEC service agencies for access to Internet service providers (ISPs) and other carriers within and outside the region</p> <p>Peering arrangements made among the ISPs of SASEC countries</p>



Design Summary	Performance Targets/Indicators	Data Sources/Reporting Mechanisms	Assumptions and Risks
SASEC research and training network	<p>In-country agreements for ownership transfer and operation signed by the EA and selected CEC operators in each country</p> <p>A university-based research and training center (RTC) established in each SASEC country</p> <p>Broadband connectivity established to link RTCs to the SASEC regional network</p> <p>A business linkage challenge fund established to encourage rural entrepreneur investments in ICT-enabled business development</p> <p>Online and off-line research and training programs in e-business development and IT professional development, provided through RTCs and CECs</p> <p>Awareness building and training to be provided to the communities and governments affected by the Project during project implementation</p>		
<p><b>Activities with Milestones</b></p> <p><b>Component 1: SASEC Regional Network</b></p> <ol style="list-style-type: none"> <li>1.1. Sign the multilateral regional cooperative network agreement July 2009</li> <li>1.2. Develop the detailed network design, by the end of November 2010</li> <li>1.3. Prepare bid documents, by the end of November 2010</li> <li>1.4. Complete the tendering and selection of contractors and service agency, by the end of May 2011</li> <li>1.5. Install, test, and operate the network, by the end of February 2012</li> <li>1.6. Sign in-country agreements for network transfer and operation, by the end of February 2012</li> <li>1.7. Complete peering agreements, by the end of February 2012</li> </ol> <p><b>Component 2: SASEC Village Network</b></p> <ol style="list-style-type: none"> <li>2.1. Develop the detailed network design, by the end of November 2010</li> <li>2.2. Prepare bid documents, by the end of November 2010</li> <li>2.3. Complete the tendering and selection of contractors and service agencies, by the end of May 2011</li> <li>2.4. Install, test, and operate the network and community e-centers, by the end of February 2012</li> <li>2.5. Sign the four in-country agreements for ownership transfer and operation, by the end of February 2012</li> </ol> <p><b>Component 3: SASEC Research and Training Network</b></p> <ol style="list-style-type: none"> <li>3.1. Select a university to serve as country host for the research and training center (RTC), by the end of December 2009</li> </ol>			<p><b>Inputs</b></p> <p>ADB's grant of \$4.7 million to Bhutan and \$9.0 million to Nepal; ADB's loan of \$3.1 million to Bangladesh; ADB's TA grant of \$4.4 million under ADB's Regional Cooperation and Integration Fund (RCIF); financing of \$7.2 million by the SASEC governments</p>

<p>3.2. Develop the detailed design for RTCs and their connectivity to the SASEC regional network, by the end of November 2010</p> <p>3.3. Prepare bid documents, by the end of November 2010</p> <p>3.4. Complete the tendering and selection of contractors, by the end of May 2011</p> <p>3.5. Install, test, and operate RTCs and their networks, by the end of February 2012</p>	
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ADB = Asian Development Bank, CEC = community e-center, ICT = information and communication technology, RTC = research and training center, TA = technical assistance.

<sup>a</sup> Social capital refers to the knowledge, norms, and networks that collectively define local communities. The concept recognizes that local networking and local information sourced from within rural communities are potentially powerful drivers for ICT use in the rural context.

## DISBURSEMENT PROCEDURES

**Reference: ADB's Loan Disbursement Handbook dated January 2007**

### A. DIRECT PAYMENT PROCEDURE

1. ADB, pays a designated beneficiary, at the request of the Borrower, from the grant funds (*Section 7 of the Handbook*). Narrative procedures are in *Appendix 14 of the Handbook*.

#### Requirements

- (i) signed withdrawal application (*form ADB-DRP/RMP in Appendix 5 of the Handbook*)
- (ii) summary sheet (*form ADB-DRP-SS in Appendix 8 of the Handbook*)

#### Supporting Documents

- (i) contract or confirmed purchase order (PO) indicating amount and due date
- (i) for payment of goods: supplier's invoice, bill of lading, or other similar documents
- (ii) for payment of services: consultant's claim or invoice
- (iii) for payment of civil works: claim or invoice from the contractor and a work progress certificate signed by the project engineer and approved by the borrower's—authorized representative

### B. REIMBURSEMENT PROCEDURE

2. ADB pays to the borrower's account, or in some cases, to the project account for eligible expenditures, which have been incurred and paid for by the borrower or EA out of its budget allocation or its own resources (*Section 9 of the Handbook*). Narrative procedures are in *Appendix 21 of the Handbook*.

#### Requirements

- (i) signed withdrawal application (*form ADB-DRP/RMP in Appendix 5 of the Handbook*)
- (ii) summary sheet (*form ADB-RMP-SS in Appendix 8 of the Handbook*)

#### Supporting Documents

- (i) contract or confirmed PO
- (ii) copy of the invoice/bill/claim and delivery receipt
- (iii) evidence of payment showing the amount paid; the date of receipt and the payee

### C. STATEMENT OF EXPENDITURES (SOE) UNDER REIMBURSEMENT PROCEDURE

3. This procedure requires no submission of supporting documents (*see paragraphs 9.8 to 9.23 of the Handbook for details*). Ceiling for the Project is \$10,000 per item of expenditures. The SOE is used in lieu of the usual supporting documents and the summary sheet. It may also be used in connection with the liquidation or replenishment of the imprest account.

4. The SOE forms are in *Appendix 22 to 25 of the Handbook*.

**D. INSTRUCTIONS FOR WITHDRAWALS**

5. Before the first W/A is submitted to ADB, the name of the authorized representative(s) must be provided to ADB, through the Ministry of Finance, including the authenticated specimen signatures of the representative(s).
6. The W/A should be signed by the authorized representative(s), sequentially numbered and should not exceed five digits (00001, 00002, etc.).
7. The W/A forms and summary sheets to be used vary for the different procedures. A separate W/A for each currency requested should be submitted. The Project may use any of the above disbursement procedures. The WA forms can be downloaded from LFIS website <http://lfis.adb.org>.
8. The W/A to be submitted to ADB must be the signed original copy to the attention of Mr. Francis Mathew, Financial Control Specialist, CTLA-1 and copied to Mr. Kazuhiko Higuchi, Director, SATC. However, supporting documents may be in photocopies and the originals to be kept for audit purposes.

**PROJECT PERFORMANCE REPORT (GRANT)**  
As of 30 Jun 2009

SERIAL NO :  
DIVISION : SATC  
DEPARTMENT : SARD  
PROJECT NO : 40054-03  
STATUS : ACTIVE

(ALL AMOUNTS IN US\$ MILLION)

**BASIC DATA**

NAME	<b>PROJECT AT RISK</b>	<b>LAST:</b>	<b>CURR:</b>	<b>Targeting Classification</b> GI <b>Themes</b> ECO <b>Subthemes</b> Macroeconomic stability Eco. eff. & enabling markets ICT
0099-NEP: SASEC INFORMATION HIGHWAY PROJECT (NEPAL)	Impact and Outcome	: No	Yes	
	Implementation Progress (IP)	:	S	
	Potential Problem (PP)	:	U	
	Override	:	No	

Related Loan(s):  
2397

MFF NO :

GRANT NO(S)	APPROVAL	FUND	SIGNING	EFFECTIVITY	ORIGINAL	-----CLOSING-----	PHYSICAL	ELAPSED
0099-NEP	17 Dec 07	03	09 Feb 09		30 Jun 10	REVISED	COMPLETION	GRANT PERIOD
						ACTUAL	ORIG : Dec 09	ORIG. 61%
							REV :	REV.

\*Fund Code Legend: 03=ADF

PROJECT PROGRESS:

REVIEW MISSIONS:                      LAST:                      ACTUAL DAYS (last 12 months): 0  
  NEXT:                      PLANNED DAYS:                      0

EXECUTING AGENCIES:                      Ministry of Information and Communications

**FINANCING PLAN**

ADB	TOTAL	COUNTERPART	CURRENT VALUE OF	BALANCE
Govt.	9.000	FUNDS ADEQUATE	GRANT:	AVAILABLE FOR
Total	2.200		APPROVED : 9.000	COMMITMENT:
	11.200		NET : 9.000	9.000

**GRANT UTILIZATION**

----- CUMULATIVE CONTRACT AWARDS -----				----- 2009 CONTRACT AWARDS -----					
	ADB	OTHERS	CUMULATIVE	PROJ	1Q	2Q	3Q	4Q	TOTAL
DEC 08	0.000	0.000	CONTRACTS TO NET	ACTUAL	0.000	0.000	0.000	0.300	0.300
30 Jun 09	0.000	0.000	GRANT(S): 0%		0.000	0.000	0.000	0.000	0.000
Proj 09	0.300								
----- CUMULATIVE DISBURSEMENTS -----				----- 2009 DISBURSEMENTS -----					
	ADB	OTHERS	CUMULATIVE	PROJ	1Q	2Q	3Q	4Q	TOTAL
DEC 08	0.000	0.000	DISBURSEMENTS	ACTUAL	0.000	0.000	0.000	0.000	0.000
30 Jun 09	0.000	0.000	TO NET GRANT(S): 0%		0.000	0.000	0.000	0.000	0.000
Proj 09	0.000								

**COVENANTS**

	AUDITED PROJECT	AGENCY FINANCIAL	SECTOR	ENVIRONMENTAL	SOCIAL	FINANCIAL	ECONOMIC
	ACCOUNTS / DELAY	STATEMENTS / DELAY	COVENANTS	COVENANTS	COVENANTS	COVENANTS	COVENANTS
<b>COMPLIANCE WITH COVENANTS:</b>	S / 0 mos.	S / 0 mos.	Not Yet Due	S	S	Not Yet Due	

**MAJOR ISSUES/PROBLEMS (IP, Impact and Outcome, Covenants)**

PROBLEM(S)	ACTION TAKEN/PROPOSED

Abigail D. Garrovillas  
Assistant Project Analyst

Susan Lim  
Transport Specialist

SATC: 40054-03

## IMPACT AND OUTCOME

## Impact

Description
Improve ICT connectivity between the SASEC countries

## Outcome

Description
Enhanced SASEC regional networks.

Performance Targets/Indicators	Rating (HS,S,PS,U)	Progress/Status
1. Establishment of SASEC regional network with fiber-optic and data interchange capacity, connecting the four SASEC countries.	5	
2. Establishment of SASEC research and training network	5	

Key Assumptions/Risks	Rating (HS,S,PS,U)	Assessment of Current Status
<b>Assumptions:</b>		
1. Favorable political support and economic activities at the regional level among SASEC countries.	5	
<b>Risks:</b>		
	Mitigated (Y/N)	
1. Communities' resistance and unfamiliarity with new technologies	Yes	5
<b>Overall Rating</b>	5	<b>NOTE: Overall Rating is based only on Assumptions and Risks until project completion. Thereafter, Immediate DO assessment will be included</b>

## Rating Upon Suspension (for COSO use only)

New Impact and Outcome Rating:	Effective Date:	Date of Lifting:
Remarks:		

## Recent Development (Date: )

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## Problems with Impact and Outcome

Description	Action Taken/Proposed

## Project Quality (one time input)

Capacity Building Component	Training Component	Participatory Process	Project Manager/Project Office prior to Loan approval	Incorporated Lessons Learned in Sector/Country	Logical Framework
Yes	Yes	Yes	No	Yes	Yes

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SATC: 40054-03

**Rating Criteria for the Assessment of  
Implementation Progress**

Project: 40054-03 - SASEC INFORMATION HIGHWAY PROJECT (NEPAL)

Grant Number: 0099-NEP	Department: SARD	Division: SATC
Approval Date: 17/12/2007	Signing Date: 09/02/2009	Effectivity Date:
Original Closing Date: 30/06/2010		Status: ACTIVE

<b>Loans Not Yet Effective</b>	As of : 30/06/2009 18.4 months after loan approval 4.6 months after loan signing	IP Rating Unsatisfactory
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**Note:** This is for recording purposes only and does not affect in any way the overall IP Rating. For guidelines in calculating project progress, please refer to Appendix 2 of PAI5.01 

Project Progress:

Override IP Rating (for COSO use only)		
New IP Rating:	Effective Date:	Date of Lifting:

Justification for Override	Justification for Lifting

Rating Upon Suspension (for COSO use only)		
New IP Rating:	Effective Date:	Date of Lifting:
Remarks:		

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SATC: 40054-03

**POTENTIAL PROBLEM PROJECT**

Rating Criteria	Flag (Yes/NO)	Actual Rating	Remarks
1. Project Implementation Delays	No	NYE	
2. Poor Compliance with Covenants	No	Not Yet Due	
3. Established, Staffed, and Operating PMU/PIU	No	S	
4. Fielding of Consultants	No	Not Yet Due	
5. Shortage of Counterpart Funds/Cofinancing	No	NYE	
6. Cost Overrun	No	NYE	
7. Poor Compliance with Audited Project Accounts and Agency Financial Statements	No	S	
8. Environmental or Social Problems	No	S	
9. Significant Disbursement Delays	No		0.000 / 0.000=
10. In Risk Sector in a Country with History of Past Problems	No	20%	
11. Project Fielded Missions	Yes	0	
Overall Rating	No		< 4 flags

**Override PP Rating (for COSO use only)**

New PP Rating:	Effective Date:	Date of Lifting:
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Justification for Override	Justification for Lifting

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**COVENANTS**

**Project and EA Accounts**

EA	FY End	FY	Months Due After FY	Due	Date Received	Months Delayed	Acceptable Y / N	Auditor's Opinion (Q, U or A)	Status of Compliance	Rating
<b>Submission of Audited Project Accounts (APA):</b>										
Ministry of Information and Communications	Jul	08/09	6	31/01/2010	-	0	-	-	NYD	S
<b>Submission of Agency Financial Statements (AFS):</b>										
Ministry of Information and Communications	Jul	08/09	6	31/01/2010	-	0	-	-	NYD	S
<b>Overall Compliance and Rating:</b>									NYD	S
<b>Findings/Actions Taken or To be Taken and other Remarks:</b>										

**Project Specific Covenants**

<b>Sector</b>	<b>Not Yet Due</b>
<b>Environmental</b>	S
<b>Social</b>	S
<b>Financial</b>	<b>Not Yet Due</b>
<b>Economic</b>	
<b>Others</b>	S
<b>Overall Rating</b>	S

**Problems/Remarks/Issues with Covenants**

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## QUARTERLY PROGRESS REPORT

### A. Introduction and Basic Data

Provide the following:

- ADB grant number, project title, borrower, executing agency(ies), implementing agency(ies);
- total estimated project cost and financing plan;
- status of project financing including availability of counterpart funds;
- dates of approval, signing, and effectiveness of ADB grant;
- original and revised (if applicable) ADB grant closing date and elapsed grant period based on original and revised (if applicable) grant closing dates; and
- date of last ADB review mission.

### B. Utilization of Funds (ADB Grant and Counterpart Funds)

Provide the following:

- cumulative contract awards financed by the ADB grant, and counterpart funds (commitment of funds to date), and comparison with time-bound projections (targets);
- cumulative disbursements from the ADB grant, and counterpart funds (expenditure to date), and comparison with time-bound projections (targets); and
- re-estimated costs to completion, need for reallocation within ADB grant categories, and whether an overall project cost overrun is likely.

### C. Project Purpose

Provide the following:

- status of project scope/implementation arrangements compared with those in the report and recommendation of the President (RRP), and whether major changes have occurred or will need to be made;
- an assessment of the likelihood that the immediate development objectives (project purpose) will be met in part or in full, and whether remedial measures are required based on the current project scope and implementation arrangements;
- an assessment of changes to the key assumptions and risks that affect attainment of the development objectives; and
- other project developments, including monitoring and reporting on environmental and social requirements that might adversely affect the project's viability or accomplishment of immediate objectives.

### D. Implementation Progress

Provide the following:

- assessment of project implementation arrangements such as establishment, staffing, and funding of the PMU;

- information relating to other aspects of the EA's internal operations that may impact on the implementation arrangements or project progress;
- progress or achievements in implementation since the last progress report;
- assessment of the progress of each project component, such as,
  - recruitment of consultants and their performance;
  - procurement of goods and works (from preparation of detailed designs and bidding documents to contract awards); and
  - the performance of suppliers, manufacturers, and contractors for goods and works contracts;
- assessment of progress in implementing the overall project to date in comparison with the original implementation schedule—quantifiable and monitorable target, (include simple charts such as bar or milestone to illustrate progress, a chart showing actual versus planned expenditure, S-curve graph showing the relationship between physical and financial performance, and actual progress in comparison with the original schedules and budgets; and
- an assessment of the validity of key assumptions and risks in achieving the quantifiable implementation targets.

#### **E. Compliance with Covenants**

Provide the following:

- the borrower's compliance with policy grant covenants such as sector reform initiatives and EA reforms, and the reasons for any noncompliance or delay in compliance;
- the borrower's and EA's compliance with financial grant covenants including the EA's financial management, and the provision of audited project accounts or audited agency financial statements; and
- the borrower's and EA's compliance with project-specific grant covenants associated with implementation, environment, and social dimensions.

#### **F. Major Project Issues and Problems**

Summarize the major problems and issues affecting or likely to affect implementation progress, compliance with covenants, and achievement of immediate development objectives. Recommend actions to overcome these problems and issues (e.g., changes in scope, changes in implementation arrangements, and reallocation of grant proceeds).

## PROJECT COMPLETION REPORT

### Suggested Topics for Project Completion Reports to be Prepared by Borrower

#### I. PROJECT DESCRIPTION

- A. Objectives
- B. Components (or subprojects for sector and multiprojects)
- C. Implementation methods
- D. Description and justification of changes in components (or subproject appraisal criteria) or implementation methods

#### II. PROJECT IMPLEMENTATION

- A. Compare original and actual implementation schedules. Indicate delays, length and causes of delays, and remedial action taken.
- B. Compare cost estimates made during appraisal and actual costs (foreign and local). Local currency costs incurred, appropriate exchange rates for their conversion into US dollars, and the foreign exchange costs financed by cofinanciers must be compiled correctly with reference to audited project accounts. Indicate factors that contributed to any significant overruns or underruns.
- C. State problems or difficulties in recruiting consultants, with reference to ADB procedures. Assess the consultant's work and the working relationship between the executing agency (EA) and the consultant. Use of a design and monitoring framework is strongly recommended.
- D. State problems or difficulties encountered in procuring goods and services (including civil works) with reference to ADB procedures. Assess the supplier's or contractor's performance under the contract.
- E. Give the extent of compliance of the borrower and EA with grant covenants, with reasons for noncompliance or delays in compliance and the remedial actions taken.
- F. State reasons for any delays in grant utilization. Evaluate the appropriateness of the disbursement methods used. Justify the reallocation of grant proceeds.
- G. State problems or difficulties with subproject appraisal. Evaluate the EA's performance and capacity to appraise subprojects.

#### III. INITIAL OPERATIONS

- A. Describe initial operations of the project and transitional problems encountered from project completion to initial operations.
- B. Describe measures taken to ensure continued smooth operation of the project relative to management, staffing, funding, and maintenance of project facilities.
- C. Analyze the prospects of the project benefits being realized.

#### **IV. EVALUATION OF THE ASIAN DEVELOPMENT BANK'S PERFORMANCE**

A. Assess ADB's performance in supervising project implementation. Include comments on the adequacy of the consultants' terms of reference and appropriateness of specifications in tender documents. Evaluate the effectiveness and timeliness of assistance extended by ADB to solve implementation problems.

B. Comment on problems encountered with ADB's procedures. Note the measures taken to resolve these problems and suggest changes in procedures and requirements.

## AUDIT REQUIREMENT

### A. Introduction

1. Article 14 (xi) of ADB's *Articles of Agreement* (the Charter) provides that ADB grant proceeds be used only for the purposes for which the grant was approved with due attention to economy and efficiency. To meet these requirements, executing agencies (EAs) are to submit audited project accounts (APA) regularly during project implementation, and, in some cases, until the loan/grant has been fully repaid.

2. A management letter, by reporting entity, is also required. The management letter is a report on the internal controls and operating procedures of the entity covering all aspects included during the normal course of the audit. For non-revenue generating EAs, that do not submit AFS, a management letter should be provided covering internal controls and procedures associated with the maintenance of project accounts and preparation of APA.

3. ADB's revised audit requirements as defined in the *Guidelines for the Financial Governance and Management of Investment Projects financed by Asian Development Bank* (the Financial Guidelines).

### B. Audit Objective and Scope

4. An audit's overall objective is for the auditor to express an opinion as to whether the financial statements present a true and fair view of the project and, where applicable, of the EA, or are similarly presented fairly in all material respects, in conformity with International Audit Standard (IAS) or other ADB-accepted standards, and applied on a basis consistent with that of the preceding year.

5. The auditor's opinion is necessary to establish the credibility, or otherwise, of the financial statements of an EA. The examination should be of such scope and depth to allow the auditor to give an opinion and make a report on the veracity, accuracy and fairness as regards the presentation of the financial statements of an EA.

#### a. ADB Requirement

6. ADB requires the borrower and the EA to have the required financial statements for each year audited by an independent auditor acceptable to ADB, and in accordance with standards on auditing that also are acceptable to ADB (see attached letter). An Audit Checklist has been prepared by ADB to guide the auditor on the items required by ADB in the audit of the project expenditures. Furthermore, an audit of such financial statements includes:

- (i) an assessment of the adequacy of accounting and internal control system with respect to project expenditures and other financial transactions, and to ensure safe custody of project-financed assets;
- (ii) a determination as to whether the borrower and project implementing entities have maintained adequate documentation on all relevant transactions;
- (iii) confirmation that expenditures submitted to ADB are eligible for financing and identification of any ineligible expenditures; and
- (iv) compliance with grant covenants and ADB's requirements for project management.

7. An audit report must include: (i) title of the auditor; (ii) date of the report; (iii) addressee (EA and/or borrower); (iv) identification of the financial information audited; (v) a reference to auditing standards or practices followed; (vi) an expression of opinion, including a qualification; disclaimer or declining of an opinion, on the financial information; (vii) the auditor's signature; (viii) auditor's address; and (ix) date of signing of the report.

**b. Audit Procedures**

8. Auditors engaged to audit project expenditures should understand the project and the entity being audited, including the contents of the Report and Recommendation of the President (RRP) and legal agreements.

9. ADB expects audits to include: (i) an examination of assets and liabilities; (ii) an examination of commitments and contingent liabilities; (iii) confirmation of debtors, creditors and inventory; (iv) an audit of statement of expenditure procedures [SOEs (where required)] as part of the overall project audit; and (v) an audit of the imprest accounts (if required). Audited financial statements provided to ADB in accordance with Grant Agreements should be accompanied by the report of the auditor that contains their opinion on the financial statements.

**c. Auditor Selection and Appointment**

10. ADB will ask the borrower to remove unacceptable restrictions, or otherwise arrange for an acceptable audit to be conducted. A borrower is responsible for the selection, appointment and performance of an auditor. ADB wishes to be informed by a borrower of an ongoing or proposed appointment of an auditor, who should meet required standards in terms of independence, experience and competence. More specifically, ADB will indicate the acceptability of an auditor in the form of "no objection".

11. An auditor to be acceptable to ADB must be:

- (i) impartial and independent of the control of the entity to be audited and of the person appointing them. In particular, they should not, during the period covered by the audit—be employed by, serve as directors of, or have family, financial, or close business relationships with the entity, except as auditors, during the period of the audit;
- (ii) well established and reputable, use procedures and methods conforming with international audit standards and employ adequate staff with appropriate skills and competence required for their responsibilities;
- (iii) experienced in types of assignments they are to undertake for the ADB project; and
- (iv) able to fulfill their terms of reference within the specified timetable.

**C. Monitoring Compliance with Submission of APA**

**a. Three Months before the Due Date**

22. ADB reminds the EA three months before APA or AFS is due.

**b. On the Due Date**

23. When the APA or AFS is not received by the due date, ADB immediately writes to the EA stating that the APA or AFS is overdue and, if it is not received within six months, requests for new contract awards and disbursement such as processing of new reimbursement, and will not be processed.

**c. Six Months after Due Date**

24. When the APA or AFS is not received within six months after the due date, ADB will hold processing of requests for new contract awards and disbursement such processing of new reimbursement. ADB informs the EA of ADB's actions and advises that if the situation is not remedied within next six months, the grant may be suspended.

**d. Twelve Months after the Due Date**

25. When the APA or AFS is not received within 12 months after the due dates, ADB determines whether the grant is to be suspended. With joint reference to the Regulations, ADB recommends grant suspension to ADB Management.

## DRAFT TERMS OF REFERENCE FOR PROJECT MANAGEMENT CONSULTING SERVICES

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### A. Background and Introduction

1. The Terms of Reference<sup>5</sup> (TOR) describes requirements for Project Management Consulting Services for Grant No. 0099-NEP: SASEC Information Highway Project (“the Project”). The Project is part of the ADB project no. 40045: “SASEC Information Highway Project”, which involves four countries - Bangladesh, Bhutan, India, and Nepal - with the following components and descriptions.

#### (i) SASEC Regional Network

2. The SASEC regional network will consist of (i) the extensive existing broadband network owned by telecom service providers in each country, to be interconnected under the Project; (ii) a new fiber-optic network to be built in Bangladesh, Bhutan, and Nepal; and (iii) four access gateways at specific sites in each country, linked to the border township within each country for connectivity to the other countries.

#### a. Fiber-Optic Network

3. In Bangladesh, a new fiber-optic cable of about 55 kilometers (km) will be laid from Panchagarh to Banglabandha in Bangladesh.

4. In Bhutan, an alternative fiber-optic route of about 140 km from Thimpu to Phuentsholing via a second power transmission route of the Bhutan Power Corporation Ltd. will provide a redundant (self-healing ring) national network from Thimphu to Phuentsholing.

5. In India, no new investment in a fiber-optic network is expected.

6. In Nepal, an alternative fiber optic route from Banepa to Biratnagar comprises two sections: Banepa to Bardibas (160 km underground) and Bardibas to Biratnagar (197 km via the Nepal Electricity Authority transmission power grid network). In addition to proposed alignment from Banepa to Biratnagar via Bardibas, installation of underground fiber optic cable between Kathmandu to Hetaunda via Pharping, Kulekhani and Bhainse will be considered.

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<sup>5</sup> Abbreviations and terms used in this document may refer to terms and phrases used in documents listed in the References Section. Readers are advised to read this TOR alongside all the documents listed in the References Section and those referenced further thereof in order to gain correct contextual understanding.

### **b. Access Gateways and Border-Connectivity Townships**

7. Dhaka in Bangladesh, Thimpu in Bhutan, Shiliguri in India, and Kathmandu in Nepal have been selected as country access gateways of the SASEC regional network.

8. The border-connectivity townships are effective strategic cable landing points in each SASEC country. The border town or junction location becomes a focus for improving connectivity and developing further capacity that can (i) be carried to the in-country access gateway, (ii) provide further benefits to the cross-border town, and (iii) provide strategic national cable routes and valuable rural connection drop-off points along the link between the border town and the access gateway. Seven border-connectivity townships were selected: (i) Pancharghar in Bangladesh; (ii) Phuentsholing in Bhutan; (iii) Shiliguri, Jogbani, Fulbari, and Jaigaon in India; and (iv) Biratnagar in Nepal. Border core routers and equipment will be installed in the three landing stations of Pancharghar, Phuentsholing, and Biratnagar.

#### **(ii) SASEC Village Network**

9. The village network requires a central hub supported by an information exchange that constantly collects, standardizes, and redistributes traffic generating community information from all participating villages across the country through a village intranet. A SASEC village network will be established under the Project. Five to six hub community e-center (CECs) will be built in each country, and five spoke CECs branching from each hub will be connected to the SASEC regional network. This will enable local networking and local information sourcing from within rural communities across borders and thereby drive rapid ICT uptake by the rural communities. The component will support (i) the establishment of a rural wireless broadband network; (ii) the development of a portal service (voice, chatting, video conferencing, e-mail, community bulletin, etc.) and a knowledge database management system; and (iii) the establishment of 110 CECs in the four SASEC countries, linked to the SASEC regional network. The SASEC village network will enable CECs in the villages to become access points for interaction with the SASEC regional network, and thereby enable the CECs themselves to operate as hubs for other CECs in the local area. Villages, once connected to the SASEC village network, will be able to generate and maintain information that SASEC rural communities, via CECs, can interact with and add to, using the SASEC regional network as the delivery mechanism.

#### **(iii) SASEC Research and Training Network**

10. The SASEC research and training network will promote regional knowledge sharing and innovation by building human resource capacity and supporting local ICT start-ups. The research and training network will therefore serve as a SASEC regional ICT knowledge network providing teaching, research, and professional development support for local innovation and entrepreneurship. The Project will establish a research and training center in a selected ICT research institute in each of the SASEC countries by providing (i) connectivity to the SASEC regional network, (ii) support for faculty mobilization and space rental, and (iii) ICT development support.

11. The purpose of this TOR is to describe the requirements for Project Management Consultants (PMC) engaged through an international firm in joint venture or association with a national firm(s) by the Ministry of Information and Communications (MOIC) of Nepal as the Executing Agency (EA) and funded by ADB.

### **B. Scope**

12. The scope of this TOR covers the following elements of the SASEC Information Highway Project. The PMC is expected to fully cover the following scopes, either explicit or implicit unless otherwise specified.

- i) SASEC Regional Network - Optical fiber cable installation in NEP, where the actual specification, actual locations and number of branchings etc are to be further specified and investigated with the EA. This includes but not limited to site selections with the EA, equipments selection, network design, transmission design, contractor sourcing/management, regulatory liaison, right-of-way clearance, applications of relevant permits.
- ii) SASEC Village Network – Includes but not limited to site selections with the EA, equipments sourcing, transmission design, equipments housing and management design, contractor procurement and management, budgetary control, regulatory liaison, right-of-way clearance and all other required formalities for construction of the SASEC Village Network in NEP.
- iii) Access Gateways and Border-Connectivity Townships – Includes but not limited to site selections in NEP, a full conduction of Service Agency selection by established procurement standards, assistance in peering negotiation with Service Agency in other countries, confirming actual peering performance, performance measurement, contingency planning and outage drills.
- iv) Service Agency procurement and management, deliverables monitoring and budget control for procuring Service Agency for operation of the SASEC Village Network in Nepal.
- v) Service Agency procurement and management, deliverables monitoring and budget control for procuring Service Agency for operation of the SASEC Research and Training Network in Nepal.

**C. Objectives of engaging Project Management Consultants**

13. The objectives of engaging a PMC are as follows:
- i) To promulgate proper design and technical requirements for the SASEC Regional Network and SASEC Village Network before the actual implementation, in order to ensure the quality of the construction meets internationally acceptable standards.
  - ii) To ensure that proper procurement standards be observed such that the funding of ADB be properly and efficiently deployed and benefits be maximised to the receiving country.
  - iii) To ensure that proper engineering, environmental and societal standards be observed during the course of the implementation such that undesirable externalities not be introduced.
  - iv) To ensure that engineering standards and equipments housings and handlings be adhering to internationally acceptable standards such that public safety risks be minimised.
  - v) To communicate with the relevant national authorities and telecommunications companies in Nepal to enable and cause the appointment of a Service Agency who will be responsible for peering the Internet of Nepal with Bangladesh, Bhutan, and India directly.
  - vi) To communicate, line-up, negotiate and cause the Service Agency of Nepal and Service Agencies of Bangladesh, Bhutan and India to enter into bilateral peering agreements

and cause to setup direct peerings such that data exchanges between Nepal and those countries do not need to go through third parties.

- vii) To perform overall procurement and management, including but not limited to tender proposal preparation, tender advertisement and invitation, tender evaluation and award, contract implementation management, contingency planning, and quality control and contract delivery monitoring, for the SASEC Regional Network, the SASEC Village Network and the SASEC Research and Training Network respectively.
- viii) To perform overall procurement and management, including but not limited to tender proposal preparation, tender advertisement and invitation, tender evaluation and award, contract implementation management, contingency planning, and quality control and contract delivery monitoring, for procuring Service Agencies for the SASEC Regional Network and the SASEC Village Network, respectively.
- ix) To device and deliver contingency management plans for all elements concerning the Project.
- x) To serve the EA requests within budget constraints
- xi) To develop measurable performance indicators and measurement methodologies and manuals for use by the EA for ongoing measurement of the effectiveness and usefulness of the Project, as one "Project Performance Monitoring and Evaluation System Report".
- xii) To produce technical, engineering, operation and maintenance documentations and manuals for ongoing maintenance, modifications and operations for the full scope of work produced under this TOR.

#### **D. Specific Tasks**

14. These specific tasks are to be performed by the PMC:
- i) Production of an Inception Report to the EA, with detailed outline of schedule, design methodology, relevant standards, timelines, targets, budget control methods, contingency, personnel's particulars, and with explicit addresses to the requirements stated in the RFP for this consulting service and how the PMC is going to meet those requirements.
  - ii) Produce technical specifications and designs, covering all aspects as requested in the RFP for the consulting service, including but not limited to civil, electrical, building construction, network, transmission, environmental, societal, budgetary, contractual, regulatory and legal aspects.
  - iii) Examine RRP document (See References section, document I., Appendix 1) on "DESIGN AND MONITORING FRAMEWORK", and develop methods to measure those indicated parameters. In the event that those parameters as proposed are not practically measurable, develop and propose the same number of alternatives that reasonably resembling to the originally parameters. In either case, the team have to provide the initial measurement as of the date, and provide detail operations manuals on how to measure those parameters on a later date for use by the EA or its other agents. The proposal should be delivered as a "Project Performance Monitoring and Evaluation System Report".

- iv) Update an Initial Environmental Examination including an environmental management plan that covers all aspects of the Project
- v) Produce formal bidding documents for selection of suppliers, contractors and service agencies.
- vi) Invite tenders and perform tender evaluation
- vii) Present formal contract award(s) recommendation in a form of a bid evaluation report to the EA. Upon disapproval by the EA with reason, the PMC unconditionally re-runs the tendering exercise.
- viii) Produce monthly progress reports, covering all aspects of work, including but not limited to aspects on budgetary, contractor management, safety, caveats, engineering, changes and modifications.
- ix) Produce complete set of manuals and handouts documenting the full aspects of the whole project, including but not limited to construction history, contractor caveats, user manuals, engineering manuals, drawings, maintenance manuals, warranty reports, maintenance costs forecasts, for both the SASEC Regional Network (the optical fiber construction), the SASEC Village Network and the Access Gateways (Bilateral Agreements) and the SASEC Research and Training Network (connectivity and equipment).
- x) Produce a final report to the EA for final completion acceptance. The PMC is to fully honour all reasonable review and questions on the final report and additional materials are to be committed by the PMC in response such that the requests of the EA to be fully satisfied before the Project is considered complete.

#### **E. Deliverables**

15. The following are deliverables of the Project and their schedule. Unless agreed by the EA and unless reasonable circumstances without the control of the PMC ensue, breach(es) to schedule is considered mis-performance.

16. Note that a delay that occurred which does not classify as a breach of schedule will not automatically entitle the PMC to delay other items that follow the delay. The whole schedule should be observed nonetheless the delay, except items that are dependent on the delayed item, where in such circumstances those items will be accepted for a delay that is no longer than the delay of the originally delayed item. Otherwise, any delays of schedule will be considered as breaches.

<b>Deliverables</b>	M1	M2	M3	M4	M5	M6	M7- M11	M 12	M13- M20	M21
a. Inception report (including detailed project plan)	x									
b. Technical specifications and designs (basic)			x							
c. Project Performance Monitoring and Evaluation System Report			x							
d. Updated Initial Environmental Examination including environmental management plan				x						
e. Technical specifications and designs (final)						x				
f. Bidding documents (including service agency selection tenders)						x				

<b>Deliverables</b>	M1	M2	M3	M4	M5	M6	M7- M11	M 12	M13- M20	M21
g. Bid evaluation reports								x		
h. Monthly progress report		x	x	x	x	x	x	x	x	
i. Handbooks and manuals						x				x
j. Final report										x

Legends: M1 = month 1. M7-M11 = month 7 to month 11, inclusive. "x" indicates required deliverables in that month.

## F. Payment Arrangement

17. The following are payment arrangements. The total remuneration is the maximum of the value of the remuneration under the contract as awarded. The actual remuneration claim(s) will be based on the actually performed man months which will not in anycase exceed the cumulative ceiling of each individual payment stage, except for the first payment.

18. Each payment stage shall be subject to confirmation and endorsement by the EA for acceptance of submission of each stage for payment.

<b>Payment</b>	<b>Submission</b>	<b>Cumulative Ceiling (% of Total Remuneration)</b>
(1) 1 <sup>st</sup> payment	a. Mobilization Advance	5%
(2) 2 <sup>nd</sup> payment	b. Inception report (including detailed project plan)	10%
(3) 3 <sup>rd</sup> payment	c. Technical specifications and designs (basic)	20%
(4) 4 <sup>th</sup> payment	d. Project Performance Monitoring and Evaluation System Report	25%
(5) 5 <sup>rd</sup> payment	e. Updated Initial Environmental Examination including environmental management plan	30%
(6) 6 <sup>th</sup> payment	f. Technical specifications and designs (final)	35%
(7) 7 <sup>th</sup> payment	g. Bidding documents (including service agency selection tenders)	50%
(8) 8 <sup>th</sup> payment	h. Bid evaluation reports	60%
(9) 9 <sup>th</sup> payment	i. Contractor Works Completion and acceptance by the EA	80%
(10) 10 <sup>th</sup> payment	j. Handbooks and manuals	90%

Payment	Submission	Cumulative Ceiling (% of Total Remuneration)
(11) Final payment	k. Final report	100%

Note: Payments will be based on actual time extended and the percentages indicated in the table above are indicative of target ceiling which will not be exceeded, except for the 1<sup>st</sup> payment.

### G. Organisation Structure Overview

19. The following are descriptions of the required structure of the team. The consultant firm awarded this contract is expected to source sufficient manpower to mirror the structure as described below.

- i) The PMC will consist of a Project Management Specialist (an International Consultant) as the overall team leader, and a chief design engineer (an International Consultant), and a resident project management specialist as the deputy team leader.
- ii) The team leader, taking advice from the chief design engineer, will be responsible for the overall deliverables of the PMC.
- iii) The Deputy Team Leader, under supervision by the team leader, will be responsible for the daily operation and overall resource allocation of three sub-teams: (i) a South Asia Regional Economic Cooperation (SASEC) regional network team and comprising of a Design Engineer, a Procurement Specialist, and a Network Engineer and (ii) a village network/research and training network team comprising of a Design Engineer, a Procurement Specialist and a Network Engineer and (iii) a joint team comprising of a civil engineer, a social development specialist, an environment specialist, and a quality assurance specialist.
- iv) The deputy team leader is expected to optimally allocate and reallocate resources within and between the sub-teams to achieve maximum output and efficiency.
- v) The PMC will be a joint team comprised of international and national consultants led by an international consulting firm in a joint venture or association with national consultants.
- vi) The two national project management subteams—the SASEC regional network team and the village network/research and training network team—will discharge their responsibilities with the guidance and instruction of the deputy team leader and submit their monthly activity report to the team leader and deputy team leader. The joint team members—the civil engineer, the social development specialist, the environment specialist, and the quality assurance specialist—will implement their tasks with the guidance and instruction of the deputy team leader and in coordination with the national subteams concerned, and submit their monthly activity report to the team leader and the deputy team leader. The composition of the PMC is summarized in Table A7.1.

**Table A7.1: Composition of the PMC**

Person-Month											
Item	Team leader	Chief design engineer	Deputy Team Leader	Design Engineer	Procurement Specialist	Network Engineer	Civil Engineer	Social Development Specialist	Environment Specialist	Quality Assurance Specialist	Total
International Consultants	6	4									10
<b>National /Resident Consultants</b>											
Resident Team Leader			21								21
Regional Network Team				6	3	11					20
Village Network Team				6	3	11					20
Joint Team							6	4	4	3	17
<b>Total</b>	<b>6</b>	<b>4</b>	<b>21</b>	<b>12</b>	<b>6</b>	<b>22</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>3</b>	<b>88</b>

Source: Asian Development Bank estimates.

Note: Numbers in boxes indicate Person-Months

## H. Scope of Work of Key Personnel

The following describes the scope of work of each key personnel as described in the above Structural Overview.

### (i) International Consultants

**20. Project Management Specialist / Team leader.** The team leader will be responsible for the management and coordination of all of the Project elements, namely, the SASEC regional network, the SASEC village network, and the SASEC research and training network. This consultant's responsibilities will be as follows:

- (i) Manage and coordinate all activities associated with the implementation of the SASEC Information Highway Project initiatives throughout Bangladesh, Bhutan, India, and Nepal as outlined in the scope of work for each project element, in coordination with other Project Management Consulting Team's team leaders in other countries where applicable.
- (ii) Support, plan, cooperate and allocate resources to ensure that project plans under the control of his team is compatible with planning by other Project Management Consulting Teams in other countries to ensure that future technical requirements for bilateral peering will be met, and interoperability between networks of the four countries ensured.
- (iii) Prepare a detailed project plan for each project element to ensure that all tasks and resources are allocated and sufficient to complete the Project within the allocated time frame and budget, and manage the Project on the basis of this plan, reporting any significant change that may affect the Project's term and budget.
- (iv) Act as project leader of the team, supervise all project management consultants in the respective country, be accountable for the outcome and deliverables of the concerned project management consultant team, and coordinate with the Asian Development Bank (ADB) and the Executing Agencies (EAs) in the SASEC countries.
- (v) Coordinate with the deputy team leader in preparation of the "Project Performance Monitoring and Evaluation System Report".
- (vi) Coordinate with other consulting team members to achieve the objectives of the scope of work and comply with all reporting requirements.

- (vii) Prepare all procedures regarding procurement in accordance with ADB's *Procurement Guidelines* (2007, as amended from time to time).
- (viii) Oversee all tendering processes with each project management unit (PMU) and be a member of the evaluation team.
- (ix) Establish project procedures for the audit of all procurement activities in compliance with the policy procedures outlined by the selected auditing firm.
- (x) Coordinate with all PMUs under the EAs to ensure cooperative management of the Project.
- (xi) Establish a monthly reporting regime for all team members as well as project rolling forecast procedures for cash-flow management and implementation risk mitigation.
- (xii) Ensure that all project payments are made in accordance with ADB's guidelines and procedures, and report all discrepancies.
- (xiii) Assist all EAs and PMUs in maintaining open communications at all times.
- (xiv) Create a project documentations register procedure for use by all team members.
- (xv) Coordinate the standard bilateral network agreement to be signed by the service agencies nominated by the EAs, as well as the agreement of transfer of title and operation between the EA and the selected service agency.
- (xvi) Ensure that all consulting team members are fully aware of the requirements and guidelines established to implement the Project elements.

21. **Chief design engineer.** The chief design engineer will be responsible for the overall technical design, specifications, equipment selection, and standards compliance of all of the Project elements, namely, the SASEC regional network, the SASEC village network, and the SASEC research and training network. The responsibilities of the chief design engineer, with support of the deputy team leader and design engineers, will be as follows:

- (i) Manage and coordinate all design activities within the concerned country.
- (ii) Advise the Team leader and supervise the Deputy Team Leader and the Design Engineers on all matters concerning network design.
- (iii) Document the technical specifications of the networks and reach consensus on those with all member countries.
- (iv) Liaise with the EA for balanced optimization of all design variables, and relay those requirements to Design Engineers in the team to translate into design documentations.
- (v) Supervise team members in preparing design specifications for wireless connectivity to community e-centers (CEC) hubs and remotes, and design specifications for connectivity from the SASEC regional network to the selected research and training institutes.
- (vi) Supervise preparation of all technical specifications for procurement.
- (vii) Oversee all implementation works to ensure compliance with specifications.
- (viii) Oversee all design output of the team and ensure that proper electrical, mechanical, civil engineering and legal and regulatory aspects are addressed as necessary.
- (ix) Ensure all monthly reporting is complied with and submitted on time to the team leader.
- (x) Assist the team leader with overall project planning.
- (xi) Coordinate with the PMUs in all SASEC countries and all selected service agencies to ensure cooperative management of the Project.
- (xii) Assist the PMUs in all SASEC countries and all service agencies in maintaining open communications at all times.
- (xiii) Develop a site survey and coverage plan for use throughout the Project by all team members.

- (xiv) Prepare testing and acceptance criteria in conjunction with quality assurance specialist.
- (xv) Maintain a comprehensive document register for handover procedures.
- (xvi) Oversee all tendering processes with the PMU and be a member of the evaluation team.
- (xvii) Ensure that all team members in particular the design engineers, team leader and deputy team leader are fully aware of major regulatory and legal requirements applicable to the project.

**(ii) National / Resident Consultants**

22. **Resident Project Management Specialist / Deputy Team Leader.** The deputy team leader will be tasked to:

- (i) Report to the Team Leader
- (ii) Manage and coordinate all activities associated with the implementation of the SASEC ICT initiatives throughout the country, as outlined in the scope of work for each project element.
- (iii) Prepare the “Project Performance Monitoring and Evaluation System Report” to the team leader.
- (iv) Assist the team leader in preparing a detailed project plan for each project element, to ensure that all tasks and resources are allocated and sufficient to complete the Project within the allocated time frame and budget, manage the Project on the basis of this plan and report any significant change that may affect the Project’s term and budget to the team leader, and submit a monthly progress report to the team leader.
- (v) Act as team leader of the in-country consultant team, supervise and monitor the activities of team members, coordinate with the PMU, the service agencies, and deputize for the team leader when necessary.
- (vi) Coordinate with other team members to achieve the objectives of the scope of work and comply with all reporting requirements.
- (vii) Assist the PMU in coordinating with the relevant parties including team members, the team leader and the chief design engineer in the tendering process and be a member of the evaluation team.
- (viii) Coordinate with the PMU and the service agencies to ensure cooperative management of the Project.
- (ix) Comply with all reporting requirements to ensure the submission of reports to the team leader.
- (x) Establish a comprehensive reporting regime, compliant with that required by the team leader, for the use of all team members.
- (xi) Reconcile all project payments against procurement documentation before submitting the documentation to the PMU for approval, and report all irregularities and discrepancies.
- (xii) Compile a comprehensive document register for handover procedures.
- (xiii) Follow up all corrective measures recommended by the quality assurance manager.
- (xiv) Assist the PMU and the service agencies in maintaining open communications at all times.
- (xv) Ensure that all consulting team members are fully aware of the requirements and guidelines established to implement the Project elements.

23. **Procurement Specialist.** The procurement specialists will support the deputy team leader and be responsible for all procurement and evaluation processes for all of the Project

elements, namely, the SASEC regional network, the SASEC village network, and the SASEC research and training network. The responsibilities of the procurement specialist will be as follows:

- (i) Assist the deputy team leader in preparing all procurement documentation and provide the latter with the country's rules and regulations for procurement.
- (ii) Assist the deputy team leader in preparing bid documents for (a) the contract packages for constructions of the SASEC regional network and the SASEC village network; and (b) the contract package for the SASEC research and training network; and (c) the contract package for selection of Service Agenc(ies) for the village network operation; and (d) all service agency contract packages where applicable and (e) any other contract packages in connection with any outsourcing of the Project.
- (iii) Evaluate and propose to the Deputy Team Leader the optimal grouping of contract packages in the event that multiple contractual functions can be performed more economically and efficiently when grouped into larger contract(s) or divided into smaller contracts or combination of both or by re-groupings.
- (iv) Assist the deputy team leader in preparing evaluation criteria for technical proposals and financial for each contract package in conformity with ADB's *Procurement Guidelines*.
- (v) Assist the deputy team leader and team leader with tendering and the evaluation of technical proposals.
- (vi) Ensure that all consulting team members are fully aware of the procurement requirements and guidelines established to implement the Project elements.
- (vii) Assist the deputy team leader in implementing the tendering procedures and evaluation of technical proposals.
- (viii) Submit a monthly activity report to the team leader and the deputy team leader.

24. **Design Engineer.** Each network subteam will be assigned a design engineer, who will be responsible for the technical design, specifications, equipment selection, and networking compliance of each of the Project elements in the country for the SASEC regional network, village network, and research and training network. The responsibilities of the design engineer will be as follows:

- (i) Manage and coordinate all design activities under the direction of the chief design engineer.
- (ii) Translate the requests of the EA into engineering design documentations and diagrams.
- (iii) Document the technical specifications for the in-country network in consultation with all team members, the service agency and the PMU when necessary in accordance with the scope of work.
- (iv) Develop network design specification for construction of optical fiber networks and their associated components including but not limited to ducting, clamps, suspensions and other devices, seeking input from team members in particular the Civil Engineer
- (v) Develop network design plans for employment of necessary switching equipments, routers, branching equipments, aggregators, repeater and all other network hardware and software required.
- (vi) Develop engineering drawings and designs to internationally acceptable standards, and collaborate with team members in particular the procurement specialist to promulgate those designs and drawings to relevant tender documents

- (vii) Collaborate with all team members and specialists and incorporate their inputs to the design specifications.
- (viii) Solicit opinion of consultants for inputs concerning electrical design when and where necessary.
- (ix) Design the specifications for wireless connectivity to CEC hubs and remotes and the connectivity from the SASEC regional network to the research and training institute under the direction of the chief design engineer.
- (x) Document the design specifications for the procurement of wireless equipment in conjunction with the service agencies.
- (xi) Prepare all technical specifications for the procurement process under the direction of the chief design engineer and procurement specialist.
- (xii) Seek inputs from all team members, in particular the Civil Engineer, and incorporate necessary legal, procedural, regulatory or other elements into design specifications.
- (xiii) Submit a monthly activity report to the team leader and deputy team leader.
- (xiv) Ensure that all sites are surveyed in accordance with the plans developed by the chief design engineer.
- (xv) Ensure that all sites are analyzed and documented correctly, particularly with regard to path profiles and coverage plots.
- (xvi) Assist the team leader and deputy team leader with project planning.
- (xvii) Design site layouts and fit-outs and obtain all the necessary regulatory building and construction approvals before the start of actual work.
- (xviii) Coordinate with the PMU and the service agency to ensure cooperative management of the Project.

25. **Network Engineer.** Each network subteam will be assigned a network engineer, who will be responsible for surveys, coverage analysis, on-site installation works, and acceptance for all sites in accordance with the scope of work in the country for the SASEC regional network, the village network, and the research and training network. The responsibilities of the network engineer will be as follows:

- (i) Manage and coordinate all on-site activities under the direction of the deputy team leader.
- (ii) Oversee all implementation works to ensure compliance with specifications.
- (iii) Ensure that all sites are fit for the purpose in accordance with the plans developed by the design engineer.
- (iv) Ensure that all equipment delivered to the site is in working condition in accordance with the procedures outlined by the supplier as well as those outlined by the quality assurance manager.
- (v) Ensure that all equipment installed is in accordance with the supplier's specifications.
- (vi) Ensure that the site is left in a clean state upon the completion of all site works.
- (vii) Ensure that all site drawings are updated to reflect changes.
- (viii) Ensure site access for all direct personnel on the dates required.
- (ix) Ensure that all contractor personnel are fully equipped to undertake the tasks planned.
- (x) Ensure that all equipment failures/faults are reported to the design engineer and quality assurance manager immediately after they are found, and initiate rectification works if and when required.
- (xi) Survey all sites in accordance with the procedures developed by the design engineer and chief design engineer.
- (xii) Ensure that all site survey documentation is completed accurately and submitted to the design engineer on time.

- (xiii) Conduct physical coverage analysis of sites under the direction of the design engineer and deputy team leader, and report the results.
- (xiv) Supervise the contractor's equipment installation work to ensure conformity with the specifications received from suppliers and the design engineer.
- (xv) Test all installed equipment to ensure that it is working in accordance with specifications, and report any discrepancies found.
- (xvi) Conduct acceptance of the sites in accordance with the procedures outlined by the design engineer and the quality assurance manager.
- (xvii) Ensure that the site is left in a clean state upon the completion of all site works.
- (xviii) Inform the team leader of any deviation from work plans and seek approval before changing work orders.
- (xix) Submit a monthly activity report to the team leader and deputy team leader.

26. **Civil Engineer.** The PMC shall be assigned a civil engineer who is a member of the joint team, who will be responsible for identifying needs for surveys, analysis, license and right of way liaisons, on-site installation works inspection for all civil related works in the country for the Project. The responsibilities of the civil engineer will be as follows:

- (i) Assist the design engineers and chief design engineer in identifying all civil work requirements for all designs and implementations for the Project.
- (ii) Provide inputs to the Procurement Specialist to identify all civil works requirements in connection with all procurement and tendering exercises
- (iii) Identify all civil works requirements that is applicable to the Project, and cause such requirements be properly documented in all procurement documentations through the procurement specialist.
- (iv) Advise the procurement specialist and deputy team leader and team leader of all caveats concerning any civil works requirements and potential legal implications in connection with all procurements for the Project
- (v) Devise acceptance standards and plans for acceptance of any civil works relating to all aspects concerning all tenders for the Project, including but not limited to (a) ensuring that all sites are fit for the purpose in accordance with the plans developed by the design engineers and (b) Ensuring that all materials delivered to the site is in good order in accordance with the specifications outlined by the supplier as well as those outlined by the quality assurance manager and (c) Ensuring that all fittings and construction works completed are in accordance with the supplier's specifications and (d) Ensuring that the site is left in a clean state upon the completion of all site works and (e) Ensuring that all site drawings are updated to reflect changes and (f) Ensuring site access for all direct personnel on the dates required and (g) Ensuring that all contractor personnel are fully equipped to undertake the tasks planned and (h) Inspecting the execution of on site civil works and reporting all abnormalities to relevant parties and (i) Surveying all sites in accordance with established civil engineering standards and procedures and report all observations to the deputy team leader and (j) Conducting physical coverage analysis of sites under the direction of the deputy team leader, and reporting the results.
- (vi) Devise plans to be incorporated into all tender documents to supervise the contractor's equipment installation work to ensure conformity with the specifications received from suppliers.
- (vii) Devise plans to test all civil constructions to ensure that it is completed in accordance with specifications, and follow up any discrepancies discovered
- (viii) Provide necessary documentation manuals and basic civil works awareness training to all team members

27. **Social Development Specialist.** The social development specialist will be part of the joint team and be responsible for the selection of sites for connectivity to the SASEC regional network and implementation of the CEC operational structure. The responsibilities of the social development specialist will be as follows:

- (i) Develop a work plan in consultation with the deputy team leader specifying the deliverables with a time frame, and implement the work plan with the guidance and instruction of the deputy team leader.
- (ii) Assist the PMU with the management of all CEC site selection activities in consultation with the design engineers.
- (iii) Review the village network plan to ensure that all social impact has been determined and that the sites will generate the greatest benefit to the community.
- (iv) Review the CEC site selection criteria and amend them where necessary.
- (v) Review the CEC basic requirements and amend them where necessary.
- (vi) Develop a CEC handbook for the operation of a CEC.
- (vii) Develop the selection criteria for the CEC operator or Service Agencies and implement them in each selected CEC in consultation with the PMU, team leader and deputy team leader.
- (viii) Assist and provide input to the procurement specialist to develop tendering documents when needs arise, and participate in the tendering process for such.
- (ix) Develop a training manual for the sustainability (financial, service delivery) of the CECs.
- (x) Assess and recommend applications that will generate the greatest benefit to the community.
- (xi) Assess whether project implementation entails any safeguard compliance issue such as involuntary resettlement or indigenous people under ADB's safeguard compliance guidelines, and if any such issue is identified, assess its impact and recommend how to address it in the course of project implementation.
- (xii) Submit a monthly activity report to the deputy team leader and team leader.

28. **Environment Specialist.** The environment specialist will be part of the national joint team and will be responsible for assessing the environmental impact that may occur during the implementation of each of the Project elements in the country and for recommending suitable measures to properly manage the impact. The responsibilities of the environment specialist will be as follows:

- (i) Develop a work plan in consultation with the team leader and deputy team leader specifying the deliverables with a time frame, and implement the work plan with the guidance and instruction of the team leader.
- (ii) Manage and coordinate all environmental issues/impact that may arise in the course of project implementation.
- (iii) Accompany all survey teams to the site to assess possible environmental impact in accordance with ADB's *Environment Policy (2002)* and the environmental rules and regulations of the country.
- (iv) Report immediately all environmental issues, once identified, to the team leader and deputy team leader concerned, together with an assessment of their impact and suitable corrective measures.
- (v) Assist and provide input to the procurement specialist to develop tendering documents when needs arise, and participate in the tendering process for such.
- (vi) Document all sites surveyed, assess any anticipated environmental impact, and determine that the sites satisfy the environmental requirements.

- (vii) Develop an environmental template for use at all sites, taking into consideration the type of work to be installed and the purpose for its use.
- (viii) Coordinate with the site owners to ensure cooperative management of environmental issues.
- (ix) Assist the site owners in rectifying environmental issues and maintain open communications at all times.
- (x) Submit a monthly activity report to the team leader.

29. **Quality Assurance Manager.** The quality assurance manager will be part of the joint team and will be responsible for all quality management procedures for each of the Project elements in the country. The responsibilities of the quality assurance manager will be as follows:

- (i) Develop a work plan in consultation with the deputy team leader specifying the deliverables with a time frame, and implement the work plan with the guidance and instruction of the team leader.
- (ii) Manage and coordinate all quality assurance programs in consultation with the team and the PMU.
- (iii) Develop the policy and procedures for survey, coverage, installation, and acceptance works to be undertaken, in conjunction with the design engineer, and monitor compliance.
- (iv) Develop the policy and procedures for factory acceptance (supplier) as well as equipment acceptance on-site by all implementing team members, and monitor compliance.
- (v) Develop a quality plan for installation works to be complied with by all network engineers.
- (vi) Assist and provide input to the procurement specialist to develop tendering documents when needs arise, and participate in the tendering process for such.
- (vii) Develop a comprehensive document register for use by the Project team, and monitor compliance.
- (viii) Follow up all equipment failures/faults to determine their cause, and recommend corrective actions to the Project manager.
- (ix) Submit a monthly activity report to the team leader.

**I. Required Qualifications for Key Personnel**

30. The following are desirable qualifications of the personnel as described Structural Overview..

## **International Consultants**

### **i) Team Leader cum Project Management Specialist**

- Bachelor degree in engineering or ICT disciplines
- Master degree in management related disciplines
- 12+ years experience in ICT management positions
- 4+ years of experience in managing ICT functions of international firms
- 2+ years of experience in managing cross-border telecommunications connectivity
- Experience in directorship positions in conducting procurement, outsourcing, contractor management of ICT projects of size US\$5M+
- Ability to manage a team of 10+ with diverse functional and cultural backgrounds
- Ability to be accountable for the performance of the whole Project Management Consulting Team, and to meet and exceed stringent budgetary, technical, schedulary and reporting requirements
- Experience in telecommunications regulatory requirements and relevant laws in concerned country
- Knowledge in and ability to connect with regulatory and governmental bodies of concerned countries (NEP, BHU, IND, BAN)

### **ii) Chief Design Engineer**

- Bachelor in engineering and/or ICT disciplines
- Master degrees in management related disciplines
- 10+ years of design or operations experience in telecommunications firms, with specific experience in telephony and optical fiber cabling design, procurement, budgeting and implementation management
- 4+ years of experience in design and maintenance of cross border telecommunications networks, with specific experience in cabling design, switching/routing design, equipments sourcing and budgeting, Internet Protocol peering, and traffic management
- Demonstrable knowledge in latest telecommunications standards and commercially available cutting edge technologies
- Knowledge in regulatory, technical, environmental requirements in the concerned country

**National / Resident Consultants**

**iii) Deputy Team Leader cum Resident Project Management Specialist**

- Bachelor in engineering and/or ICT disciplines
- Master Degree in management related field.
- 6+ years of telecommunications or IP network management experience
- 4+ years of technical or management leadership positions in notable ICT firms
- Technical knowledge in Internet Protocol, IP Peering, and administrative knowledge in IP Transit/Peering Agreements negotiation and execution
- Experience in development of network construction plan, and procurement, contractor management and implementation control of network construction execution
- Experience in telecommunications regulatory requirements and relevant laws of concerned country
- Knowledge in and ability to connect with regulatory and governmental bodies of concerned country

**iv) Design Engineer**

- Bachelor degree in engineering or ICT-related disciplines
- 6+ years of telecommunications or IP network design and management experience
- Technical experience in telephony network design, IP network design, IP peering arrangement, traffic management and load balancing, wired and wireless and optical fibre transmission network design
- Demonstrate hands-on knowledge in main-stream ICT equipments
- Outstanding language ability for design and documentation

**v) Network Engineer**

- Bachelor degree in engineering or ICT-related disciplines
- 6+ years of telecommunications or IP network management experience
- Technical knowledge in operation of IP network, IP peering, traffic management and load balancing, wired and wireless transmission networks
- Extensive knowledge in internet services installation and building, core internet services management including DNS, DHCP, SMTP, HTTP services configuration
- Demonstrate hands-on knowledge in main-stream ICT equipments

**vi) Procurement Specialist**

- Bachelor degree in engineering and ICT-related discipline, and/or Master degree in business management / administration
- 3+ years of procurement experience in ICT related products with notable firms
- Knowledge in the local suppliers market
- Ability to follow strict procedural and budgetary requirements
- Ability to manage suppliers in performing to specified strict quality standards

**vii) Civil Engineer**

- Bachelor degree in Civil Engineering or related disciplines
- 3+ years of experience in managing road construction, public networks ducting, governmental coordination
- Knowledge in the local contractors market Knowledge in regulatory and environmental requirements of concerned country

**viii) Social Development Specialist**

- Bachelor and /or Master degree in social science, public administration or related disciplines
- 3+ years of experience in societal development, planning, forecasting and consulting with notable firms
- Ability to write up surveys and recommendations for the relevant network projects
- Knowledge in cultural, regulatory and environmental conditions of the concerned country

**ix) Environment Specialist**

- Bachelor and/or
- Master degree in environmental science related disciplines
- 3+ years of consulting experience in environment protection and planning, hazards prevention and remedy
- Ability to write up surveys and recommendations for the relevant network projects
- Knowledge in cultural, regulatory and environmental conditions of the concerned country

**x) Quality Assurance Specialist**

- Bachelor degree in engineering
- 3+ years of working experience in quality assurance

- Knowledge in internationally recognized standards and practices of Quality Assurance for environmentally impacting projects
- Ability to individually develop a Quality Assurance Plan to measure, review and recommend remedial actions for the concerned network projects
- Knowledge in Quality Assurance standards adopted by the concerned country

**J. References**

- I. ADB. 2007. Report and Recommendation of the President to the Board of Directors on a Proposed Asian Development Fund Grant, Loan and Technical Assistance Grant People's Republic of Bangladesh, Kingdom of Bhutan, India, and Nepal: South Asia Subregional Economic Cooperation Information Highway Project.
- II. ILLAWARRA TECHNOLOGY CORPORATION LTD. 2007. Final Report for TA 6358-REG: Preparing the South Asia Subregional Economic Cooperation (SASEC) Information Highway Project.